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The study attempts to: (1) inventory the characteristics of all current full time post-high school vocational teachers in Wisconsin, and (2) learn something about the labor market mechanisms of the post-high school vocational teacher labor market. The population to be studied consisted of approximately 1,550 full-time teachers and administrators. Data were collected by questionnaires: 1,079 (70 percent) teachers responded, and 24 (83 percent) full-time directors of day vocational, technical, and adult education schools responded. The findings from this study provide baseline information on teacher characteristics and are grouped into the following six main categories: (1) general characteristics, (2) educational status, (3) utilization and utilization change, (4) source, (5) mobility, and (6) recruitment. (CH)

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THE EDUCATION, SOURCES AND RECRUITMENT OF WISCONSIN VOCATIONAL-TECHNICAL TEACHERS

BY

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INTRODUCTION AND BACKGROUND

Vocational Education in the National Picture

It is widely accepted that rising technology has been largely responsible for the substantial increase in economic growth (i.e., G.N.P.) which this country has enjoyed in recent years. Output per man hour which had increased at an average of 2 percent/year from 1912-1947 has been increasing 3 percent/year since then.[1] More recently productivity has been increasing at a rate of 3.2 percent/year or better.

The concurrent growth in the labor force during this period has been great, with employment jumping from 58,000,000 in 1947 to approximately 80,000,000 today.[2] The most significant impact of this new technology however, has not been on the employment total, but in the composition of employment.[3]

Two major transformations have taken place which have played a decisive part in the development of a new role for vocational education. First, there has been a significant shift in the composition

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[1]National Commission on Technology, Automation, and Economic Progress, Technology and the American Economy (Washington, D.C.: GPO, 1966), p. 17).

[2]U.S. Department of Labor, Manpower Report of the President, April 1967 (Washington, D.C.: GPO, 1967), p. 211.

[3]Charles Killingsworth, "Structural Unemployment in the U.S.," Employment Problems of Automation and Advanced Technology: An International Perspective (London: MacMillan & Co., Ltd., 1966), p. 136.

of the labor force from primary and secondary occupations into the tertiary (i.e., service) occupations (see Table 1).

Table 1. Composition of the Labor Force[4]

1947		1966
14.0%	Farm Workers	5.2%
10.4	Service Workers	13.1
34.9	White Collar Workers	45.0
40.7	Blue Collar Workers	36.7
100.0%		100.0%

Secondly, there has been a long-term educational upgrading of employed persons in all major occupation groups.[5] The proportion of workers in the labor force with at least a high school education has doubled from 1940 to 1967.[6]

The upshot of these transformations has been twofold. One, young people entering the labor market in the 1960's who lack a good education find themselves at a distinct disadvantage. Two, older workers who lose their jobs find it extremely difficult to get another because of obsolescent skills.

The labor market problem of the young worker is particularly distressing. In 1965, high school graduates who graduated in June had an unemployment rate of 12.4 percent in October, while high school

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[4]U.S. Department of Labor, Manpower Report of the President, April 1966 (Washington, D. C.: GPO, 1966).

[5]Harvey Hamel, "Educational Attainment of Workers, March 1966," Monthly Labor Review, June, 1967, p. 42.

[6]Harvey Hamel, "Educational Attainment of Workers," Monthly Labor Review, February, 1968, p. 26.

dropouts had an unemployment rate of over 20 percent.[7] Presently, for every 100 students that begin first grade, less than 20 percent ever graduate from a four year college.

The outlook for the future is not good. In the 1960's it is estimated that 26,000,000 young people will have entered the labor force. Seventy percent of these new entrants will be high school graduates while 7,500,000 will not have completed the eigth grade. Forty-three percent of the net increase in the labor force during 1965-1970 will be of young people 16-24.[8]

Congress and the President in looking for a solution to the problem of the young and older worker found a partial answer in the vocational education system, the forgotten child of the total education picture.[9]

The Vocational Education Act of 1963

In 1961, President Kennedy appointed a Panel of Consultants to report on the vocational education system. The Panel judged that vocational education was a good investment but was not available in enough schools and was not preparing people for a sufficient variety of jobs.

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[7]Harvey Hamel, "Employment of High School Graduates and Dropouts in 1965," Monthly Labor Review, June, 1966, p. 644.

[8]Department of Health, Education, and Welfare, Vocational Education in the Next Decade (Washington, D.C.: GPO, 1951), p. 17.

[9]According to Grant Venn, Commissioner of Adult and Vocational Education at the USOE, "as late as 1958 the unofficial position of the federal government was to phase out vocational education as a government supported program." (See Bibliography for citation).

The solution as the Panel saw it was to broaden the objectives of vocational education through the passage of a new vocational education act. In 1963, a new federal Vocational Education Act was passed, providing vastly increased federal funds for the development of state vocational programs.[10] In particular, the Vocational Education Act of 1963 sought to insure that vocational education be tied closely to local labor market needs.[11]

The initial impetus of the Act was strong and far-reaching. Federal money for vocational education was doubled in the first year of operation (see Table 2).

Table 2. Federal Funding of Vocational Education

Year	Smith-Hughes/George-Barden	1963 Act
1963-1964	$56,920,000	
1964-1965	16,960,000	$123,500,000
1965-1966	57,150,000	202,500,000
1966-1967	39,150,000	218,230,000
1967-1968	57,150,000	197,310,000

"From 1964 to 1966, total expenditures for vocational education increased almost 2½ times. Federal grants to the states rose over four times, and state and local expenditures doubled."[12] (See Table 3.)

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[10] Vocational Education Act, Public Law 88-210, 88th Congress, H.R. 4955, December 18, 1963.

[11] Gerald Somers, "The Response of Vocational Education to Labor Market Changes," The Journal of Human Resources (Madison: University of Wisconsin Press, Supplement 1968).

[12] U.S. Department of Health, Education, and Welfare, O.E., The Bridge Between Man and His Work (Publication 1) (Madison: The Center for Studies in Vocational and Technical Education, 1968), p. 32.

This increase in funding yielded a tremendous expansion in vocational education programs which in turn created an unprecedented demand for new and highly specialized vocational-technical teachers.[13] The importance of such teachers in vocational education is obvious.[14] The teacher is, to a large extent, the key to a sound education.

Table 3. Fuding of Vocat'onal Education

Fiscal Year	Total	Federal	State
1964	$332,895.000	$ 55,027,000	$277,758,000
1965	604,646,000	156,936,000	477,710,000
1966	799,895,000	233,794,000	566,101,000

The demand for vocational-technical teachers has not yet been fully met. There is, in this high demand situation, a built-in "cultural lag." "The need for new and highly specialized kinds of personnel is growing much more rapidly than teacher education programs can be developed to produce them."[15]

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[13]The general report of the Advisory Council on Vocational Education 1968 reports that vocational enrollment went from 4,217,198 in 1963 to 6,880,000 in 1967.

[14]J. Feirer, "Has Vocational Teaching Become a Profession," IAVE, November 1965. J. Beaumont, "The Vocational Teacher: Key to Sound Education," American Vocational Journal, September 1967. Harold Smith, Education and Training for the World of Work (Kalamazoo: Upjohn Institute for Employment Research, 1963).

[15]Charles Rodgers, "Educational Institutions and the Demand for Occupational Education Personnel," Regional Conference on Supply and Demand for Teachers of Occupational Education in the South, edited by Loren Ihnen and Adger B. Carroll (Raleigh: North Carolina State University, 1966), p. 20.

The supply of vocational-technical teachers has become, in the eyes of many, "the greatest single problem facing vocational and technical education."[16]

The Wisconsin Picture

Vocational Education in Wisconsin

The Wisconsin vocational education system is an independent post-high school system, entirely separate from the public high school system and a part of the higher education complex. It is guided by the State Board of Vocational, Technical, and Adult Education, which has control over all state aid given to vocational schools and cooperates with the federal government in the execution of the U. S. vocational education acts.[17]

The post-secondary school vocational system has been emphasized in Wisconsin because of the specialized nature of the programs. The comprehensive high school, it is believed in Wisconsin, cannot provide the special equipment needed for such programs, nor the more mature workers needed to deal with today's complicated working environment. The area type school, on the other hand enables the vocational system to institute programs appealing to the specialized interests of a scattered potential enrollment.

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[16]James Hamel, The Demand for and Selected Sources of Teachers in Vocational and Technical Education, State Director Survey (Columbus: Ohio State University, 1967). U.S.O.E. Division of Vocational and Technical Education, "What's Ahead for Vocational Education," Program Planning, Development, Budgeting Series, No. 1 (Washington: The Division), 1967. W. Stevenson, "Vacancies at the Top," American Vocational Journal, May, 1967.

[17]See Appendix A

The interest in area schools in the Wisconsin system was stimulated by the George-Barden Act (Title III) and by the 1963 Vocational Education Act. In 1965, the Wisconsin State Legislature passed a law (Chapter 292) designed to broaden vocational, technical, and adult educational opportunities through inclusion of the entire state in area districts by 1970.

The upshot of the expansion and specialization of the vocational system has been a great increase in the demand for new and highly specialized teachers. The vocational-technical teacher stiutation in Wisconsin now resembles that facing the nation as a whole.[18] In 1967, Clarence Greiber, Director of the State Board of Vocational, Technical and Adult Education (V.T.A.E.), reported to Governor Knowles that, "Wisconsin was and still is faced with a critical shortage of qualified teachers in the system of vocational, technical and adult education."[19]

Greiber was accurate in his assessment of the situation and projections for the future. The expansion of student enrollment in the Wisconsin vocational system has been tremendous over the last decade. Student enrollment has gone from 132,000 in 1957-1958 to 200,000 by 1967-1968, an increase of 52 percent. The increase in full-time enrollment was almost five-fold in this period.

The largest increases in enrollments for voluntary daytime classes have come since the 1962-1963 school year. Since the 1962-1963 school

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[18]Jerome Moss Jr., Review of Research in Vocational Technical Teacher Education (Minneapolis: University of Minnesota, 1967).

[19]Wisconsin State Board of Vocational, Technical and Adult Education 1966-67 Descriptive Report (Madison, 1967), p. 69.

year full-time enrollment has almost tripled from 7,783 to approximately 20,000 in the 1967-1968 school year. Total daytime enrollment has increased by 35 percent from 51,677 to 69,789 during the same period.[20] Projections for the future indicate equally substantial increases (See Table 4).

Table 4. Enrollment Projections 1967-68 to 1970-71[21]

Year	Low Projection	High Projection
1970	237,000 Up 26%	266,800 Up 42%
1980	348,000 Up 85%	394,500 Up 109%

On the average, enrollment is expected to increase by 34 percent by 1970 and 97 percent by 1980.

The outlook for vocational-technical teacher demand is even greater than indicated by present projections of student enrollment.[22] The recent increase in the number of enrollments per 1000 population has been coupled with an increase in the proportion of students entering full-time programs (See Table 5).[23]

Table 5. Full-Time Students as a Percent of Enrollment[24]

Year	
1961-62	2.7%
1963-64	5.6%
1965-66	7.4%

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[20] See Appendix B.

[21] State of Wisconsin, Department of Resource Development, Vocational, Technical and Adult Education Facilities (Madison: 1967), p. 48.

[22] See Appendix C

[23] Enrollment rose from 34/1000 in 1955-56 to 45/1000 in 1965-66.

[24] State of Wisconsin, Dept. of Resource Development, op cit., p. 19.

Since full-time enrollments use a larger amount of teaching time (See Table 6), the increase in number of class hours of instruction per week will increase proportionately more than any given percent increase in student enrollment. Consequently, it is projected that

Table 6. Student Instruction Hours[25]

Student	Instruction Hours Required
Full-time	20.0 hours/week
Part-time	4.0 hours/week
Evening	1.3 hours/week

student hours of instruction per week will increase by between 116 to 145 percent by 1980 compared to an anticipated increase of only 85 to 109 percent in student enrollment.

The need for additional teachers became apparent even before these projections were made. In the academic year, 1966-1967, qualified students (1500) were turned away by the vocational system for the third year in a row. Previously, the vocational system had been forced to turn away 3000 students in 1964-1965 and in 1965-1966.[26]

Four hundred new full-time teachers were needed last year to fulfill the increased demand. This number represented a 33 percent increase over the 1160 full-time teachers in the system during 1966-1967. The number of part-time teachers increased from 4519 to about 6000 in 1967-1968. This year another 625 full-time teachers will be needed.[27]

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[25] Ibid., p. 45.

[26] Coordinating Council on Higher Education, State of Wisconsin, Vocational-Technical Teachers-Staff Paper #52, May 1968, unpublished.

[27] Ibid., p. 11.

In sum, the V.T.A.E. system will need approximately twice as many teachers by 1970 (2900 vs. 1500--1967-1968). The Coordinating Council on Higher Education in Wisconsin estimates that this means that at least 1100 new teachers will be needed between 1967-1968 and 1970-1971, plus an additional 1100 for replacements. By 1980, an additional 3000 teachers will be needed, plus replacements.[28]

Aims of the Study

The literature on vocational-technical teacher supply and demand is of little use to vocational personnel engaged in recruiting new teachers. In general, most of these studies lack a practical research design which would in some way facilitate recruitment. There is, for the most part, a lack of research on teacher characteristics either for general knowlddge or for the practical purposes of recruitment.

Most empirical studies attempt to predict teacher supply or demand in aggregate figures. These studies are usually weak methodologically and are biased to yield results which almost always indicate teacher shortage.[29] There is a definite need for an objective study which attempts to examine the situation from one point in time and produce data which can be put to immediate use.

This pilot study seeks to achieve such an objective. First, an attempt has been made to inventory the present characteristics of all

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[28]Coordinating Council on Higher Education, op cit., p. 2.

[29]David M. Blank and George Stigler, The Demand and Supply of Scientific Manpower (New York: 1966); and W. Lee Hansen, "Human Capital Requirements for Educational Expansion: Teacher Shortage and Teacher Supply," Education and Economic Development, edited by C. A. Anderson and M. J. Bowman (Chicago: Aldine Publishing Co., 1965).

post-high school vocational teachers in Wisconsin. Important information relating to teacher quality has been gathered dealing with teacher educational backgrounds, teaching experience and related occupational experience. In addition, an attempt has been made to analyze teacher utilization in terms of changing class contact hours, numbers of students per class, extra-curricular positions and additional night school teaching positions.

Secondly, and perhaps more importantly, an attempt has been made to learn something about the labor market mechanisms of the post-high school vocational teacher labor market. Detailed information has been gathered on teacher sources, mobility and recruitment. It is believed that by filling the knowledge gap in this area, much inefficiency can be eliminated on both sides of the teacher labor market.[30]

Aside from these two major objectives, it is quite possible that the major usefulness of this study may be in its establishment of certain baseline information on vocational teachers which can be followed up year after year in time series fashion. Information on changing teacher characteristics, education, utilization, sources, mobility and recruitment can be of inestimable value to people engaged in educational research and recruitment.

The final two chapters of this study will attempt to summarize the major findings in light of the two basic objectives enumerated in this section. Included in these chapters will be policy recommendations and recommendations for further research suggested by the major findings. The next chapter deals with the methodology of the study.

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[30]"The practices and processes of staffing are not sufficiently well understood, nor have they been adequately evaluated." (Professor Harlan Sampson writing on vocational-technical teachers, October 1968).

CHAPTER I

METHODOLOGY

Framework

This study examines the characteristics of all full-time teachers in the post-high school Wisconsin V.T.A.E. system in order;

1. To determine the present characteristics of teachers i.e., demographic variables;
2. To determine the educational status of teachers;
3. To study teacher utilization and utilization change;
4. To determine major sources of recruitment and recent trends in the major sources of recruitment;
5. To study mobility and recent trends in mobility of vocational teachers;
6. To determine major techniques of recruitment and recent trends in the major techniques of recruitment.

These six areas will be examined separately for each of the major curriculum areas (i.e., Trade and Industry, Business and Office, Distributive, Health, Technical and General Academic Education) and for coordinator-supervisors. In addition, where appropriate, an attempt will be made to see if there are significant differences in these areas according to age, sex, and city size. The author believes that differences in these demographic variables are important and will yield useful information to vocational personnel engaged in recruitment.

Special note should be taken of the sections dealing with teacher utilization (see section on definitions) and teacher trends. It was decided to avoid a controversial section on "teacher shortage" which would be subject to a battle of definitions. Instead, certain variables dealing with the use of the teacher's time have been ranked and standardized according to high and low utilization with no attempt to make a judgment as to whether this indicates a definite shortage or not. The utilization indexes computed will be used for purposes of comparison of the different curriculum areas.

In examining teacher trends this researcher tried to avoid methodological problems by referring only to "recent trends." In an attempt to do a longitudinal analysis from only one point in time, there is a built-in bias in that the research design has not accounted for those teachers who have left the system. The teachers remaining in the system, say from 1950, may not be typical of all teachers in 1950, so one cannot generalize about what teachers were like in 1950 from the few remaining. This effect should not bias the results as much for teachers recruited more recently (i.e., 1960). Regardless, this qualification should be borne in mind when reading the sections on recent trends.

Working Hypotheses

The hypotheses to be tested in this study will deal mainly with recruitment and recruitment characteristics since the overriding purpose of the study is to facilitate recruitment. Among the hypotheses that will be tested are the following:

1. Sources of vocational teachers vary according to the curriculum area;

2. Recruitment techniques vary according to the curriculum area and the source used.

3. Educational status at time of entry will vary according to the curriculum area and the year the teacher entered the system.

4. Mobility will vary according to the curriculum area and the year the teacher entered the system.

5. In general, the larger the city size the higher the salary paid to teachers.

6. The recent expansion in Wisconsin vocational enrollment and subsequent increase in teacher demand (largely under the stimulus of the 1963 Vocational Education Act) have had the following effect:

(a) Sources:	increase in the use (%) of certain new or rarely used sources
(b) Mobility:	increase in teacher mobility (i.e., teachers coming from a greater distance or another state).
(c) Recruitment Technique:	increase in use (%) of new or rarely used recruitment techniques by states.

Data Collection

The population to be surveyed was identified at approximately 1550. This estimate of full-time teachers and administrators was made from a head count of persons listed in the Personnel Directory 1967-1968 of the State Board. On closer examination, it appears to be a high estimate since a number of the teachers included were part-time.

Data collection was achieved by means of questionnaires distributed to all full-time teachers and administrators in the post-high school

Wisconsin V.T.A.E. system.[31] It was decided to limit this study to full-time teachers only, since part-time teachers outnumber full-time teachers by four to one. A survey of 7500 teachers would have been beyond the scope of this pilot study. Regardless, the full-time teachers are quite representative since they are responsible for 40 percent of the instruction hours taught and for almost all instruction of full-time students in degree programs.

The survey was distributed by the State Board with a cover letter from Director Clarence Greiber in March 1968 and was returned by April.[32] The final count shows a return of 1079 questionnaires or a response rate of at least 70 percent.[33]

No attempt was made to obtain the names of the respondent. Questionnaires were not identified for two reasons:

1. The name of the respondent was not necessary for the type of demographic information required.

2. It was hoped that the confidential nature of the study would provide a greater response rate with more objective answers.

In summary, it is believed that because of the high response rate and confidential nature of the study, the results obtained are representative of the total population.

A separate questionnaire was distributed to all full-time directors of day V.T.A.E. schools in the state. A return of 24 out of 29 was

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[31] Edward A. Podesta, Supply and Demand Factors Affecting Vocational Education Planning (Menlo Park, California: Stanford Research Institute, 1966).

[32] See Appendix D.

[33] See Appendix E.

recorded for an 83 percent response rate.[34]

Definitions

Certain basic definitions should be enumerated before going into the data results.

> The term "Vocational Education" when used in this study refers to "All formal instruction for both youth and adults...at the post-high school and out of school levels, which prepares individuals for initial entrance into and advancement within an occupation or group of related occupations.[35]
>
> The term "Occupational Education Teacher" when used in this study refers to a post-high school teacher "who functions in providing instruction in skills and/or knowledge relating to a specific occupation or cluster of occupations to persons who have made an occupational choice."[36]
>
> The term "Vocational Teacher" when used in this study refers to all occupational education teachers plus general academic teachers employed in the post-high school vocational system. This definition does not include those teachers participating in transfer programs.[37]
>
> The term "Teacher Utilization," for the purposes of this study refers to whether the teacher teaches in night school or holds an extracurricular position. "Teacher Utilization Change" refers to whether the teacher's class contact hours/week or students/class have increased or decreased over the last three years.
>
> Trade and Industrial Education is defined by the State Board as: "Education which is necessary to develop the manipulative skills, technical knowledge and related information such as job attitudes, safety practices, and trade judgment necessary for employment in a trade and industrial occupation. An indus-

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[34] See Appendix F.

[35] Education for a Changing World of Work, Report of the Panel of Consultants on Vocational Education (Washington: Department of HEW, G.P.O., 1963).

[36] Wisconsin State Board of Vocational, Technical, and Adult Education, Wisconsin State Plan for Vocational Education: Madison, 1963.

[37] It should be noted that this study concentrates on full-time teachers in full-time, day programs. Adults and out-of-school attendance is mostly on a part-time and evening basis.

trial occupation is defined as any craft, skilled trade, or semi-skilled occupation which directly functions in the designing, producing, processing, fabricating, assembling, testing, modifying, maintaining, securing, or reparing of any product or commodity." Examples of trade and industrial subjects include machine shop, welding, auto mechanics, punting, carpentry, barbering and plumbing.[38]

Business and Office Education is defined by the American Vocational Association as: "A program of instruction consisting of two parts. The first part is office education, which is a vocational program for office careers through initial, refresher, and upgrading education leading to employability and advancement in office occupations. The second part is business education, which is a program to provide students with information and competencies which are needed by all in managing business affairs and in using the services of the business world." Examples of business and office subjects include accounting, business administration, secretarial science, and business machines.[39]

Distributive Education is defined by the State Board as: "Education designed to train people for occupations involving the marketing or merchandizing of goods and services. These occupations are commonly found in various businesses such as retailing, wholesaling, manufacturing, storing, transporting, and financing." Examples of distributive subjects include marketing, merchandizing, and sales and service.[40]

Health and Welfare Education is defined by the State Board as: "Training in occupations which render supportive services to the health professions such as nursing, medical and dental practice, all of which are concerned with providing diagnostic, therapeutic, preventive, restorative, and rehabilitative services to people." Examples of health and welfare subjects include practical nursing, professional nursing, medical assisting, and dental technician.[41]

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[38]Wisconsin State Board of Vocational, Technical and Adult Education. Wisconsin State Plan for Vocational Education (Madison, 1963). p. 54.

[39]American Vocational Association. Definitions of Terms in Vocational, Technical and Practical Arts Education (Washington, D.C.: Committee on Publications, AVA, 1964). p. 4.

[40]Wisconsin State Board of Vocational, Technical and Adult Education. Wisconsin State Plan . . . . p. 45.

[41]Ibid., p. 61.

Technical Education is defined by the State Board as: "Education designed to train persons for employment as highly skilled technicians in recognized occupations requiring scientific knowledge in fields necessary for the national defense." Examples of technical education courses include electronics, technology, telecasting, and mechanical design.[42]

General Academic Education is: Education in the arts and sciences, which while not directly related to a vocational skill, is aimed at refining thought processes, increasing knowledge, and, in effect, increasing the eventual employability of the student. Examples of general academic education include social studies, English, mathematics and general science.

Statistics

The use of statistics to test the stated hypotheses is limited because the data is mainly in nominal form. The basis for the whole study will be cross tabulations which can be tested for significance. The Chi-Square and Means test performed on these distributions will test for statistical significance.[43] Rankings will be used in certain cases in order to facilitate comparisons where the Chi-square and Means test cannot be used. Other indexes based on rankings will also be used to facilitate hypothesis testing.

It should be noted that the Chi-square test is not applicable when too many of the cells of the matrix are small. It would not be wise, however, to combine categories since too much information would be lost. In such cases an attempt will be made to compare distributions without testing for significance. The results obtained in this manner will still be valuable since the data return was close to census proportion (see data collection).

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[42] Ibid., p. 62.

[43] See Statistical Appendix G.

There is a greater tendency for the Chi-square to be significant when testing with a large sample. It is therefore important to distinguish between "statistically significant" and "importance." Certain data can be statistically significant but not really important in terms of the empirical results and usefulness of the data. For instance, a difference in the average age of technical teachers and trade teachers of one year may be significant but it is not important. An average age difference of five or ten years, however, would be quite important. Results which are significant but not important will be treated lightly.

The Study

The next six chapters seek to describe the characteristics of present vocational teachers in order to provide information about their background, recruitment, and present status. Chapters II-IV describe the general characteristics, educational background, and utilization of vocational teachers. Chapters V-VII describe the sources, mobility and recruitment of such teachers.

Each chapter will contain a comparision of the relevant characteristics by curriculum area. All curriculum areas will be studied except for home economics and agriculture. These two programs are extremely small and are more truly represented in the high school system. Coordinator-supervisors will be studied to see how their characteristics differ from the average teacher.

Chapter VIII summarizes the major findings and presents recommendations for further research. The concluding chapter (IX) presents relevant policy recommendations stemming from this study.

CHAPTER II

THE GENERAL CHARACTERISTICS OF VOCATIONAL TEACHERS

The teacher characteristics studied in this and subsequent chapters will be analyzed to see how they differ by age, sex, population of the city,[44] years in the school system, and curriculum area.[45] The beginning of each chapter will describe the present "overview" characteristics of all teachers while later sections in the chapter will analyze these characteristics as described above.

Overview

The full-time vocational teachers in this study teach in 36 post-high school vocational-technical schools and colleges throughout the state of Wisconsin.[46] The average age of these teachers is 42 years. Seventy-two percent of the teachers are male, while 28 percent are female. The ratio of male-female teachers per curriculum area varies greatly and will be discussed later in the chapter.

About half of all teachers teach in cities under 50,000 in population (see Table 7). (It should be noted that only Milwaukee fits into the category of over 200,000.

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[44]City size is broken down into four categories: under 25,000; 25-50,000; 50-200,000; and over 200,000.

[45]This variable will be measured by question 16(a)--"During which of the following periods did you first enter the Wisconsin V.T.A.E. system?" (Before 1950; 1950-60; 1961-62; 1963-64; 1965-66; and 1967-68).

[46]There are 41 schools in the state which employ full-time teachers. Those schools that did not respond were very small schools.

Table 7. Teacher Distribution by City Size, N=1072

	Under 25,000	25-50,000	50-200,000	Over 200,000
Number	149	362	270	291
Percent	13.9	33.7	25.2	27.2

Vocational teachers in Wisconsin teach in eight main curriculum areas as shown below. Coordinator-supervisors are included as a separate category.

Table 8. Distribution of Teachers by Curriculum Area, N=1075

Curriculum Area	Number	Percent
Trade and Industry	232	21.58
Business and Office	158	14.70
Home Economics	25	2.33
Agriculture	22	2.05
Distributive	33	3.07
Health and Welfare	82	7.67
Technical	104	9.67
General Academic	206	19.16
Coordinator-Supervisor	213	19.18
TOTAL	1075	100.00

There are comparatively few home-economics and agricultural teachers in the vocational system. The Wisconsin vocational system as a post-high school system does not emphasize home economics or agriculture. These subjects are taught for the most part, in the high school system. Distributive education has relatively few full-time day teachers. In addition, a great proportion of the program is taught at night by specialists in the field.

The greatest number of teachers are found in the areas of trade and industry, general academic and business and office education. Approximately one-fifth of the teachers surveyed were coordinator-supervisors who taught on a limited basis.

On the average, Wisconsin vocational teachers have had ten years of work experience directly related to their present assignment. In addition, they have had four and a half years of related part-time teaching experience and almost nine years of related full-time teaching experience. In total, they averaged 11 years of teaching experience either related or unrelated to their present assignment.[47]

Wisconsin vocational teachers and teacher coordinators have a salary range of from $5,000 to just over $13,000/per year. Only teacher coordinators and supervisors have salaries of $13,000 or more. Sixty-seven percent of all the teachers draw a salary between $7,000 and $11,000 or more, while 11 percent draw a salary of under $7,000. The average salary of Wisconsin vocational teachers and teacher coordinators is approximately $9300.00. This salary figure is only a rough approximation since exact salary figures were not asked for on the survey.[48] It was believed at the time of the survey that an open-ended salary question would not be well received.

Although these salary figures are rough, they appear to be supported by a nationwide survey of 495 public, two-year junior colleges conducted by the National Education Association in 1968.[49]

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[47]It appears from the data on total years teaching experience that vocational teachers interpreted this as years of full-time teaching experience either related or unrelated to their present assignment.

[48]Salary data in this study has been ascertained only in terms of $2000 categories, i.e., $5-6,999; $7-8,999; $9-10,999; $11-12,999; and over $13,000. Salary data was collected in this way because it was believed that teachers might not want to indicate their exact salary. In order to calculate a mean salary level, it was assumed that the average salary in each of these categories would be $6,000; $8,000; $10,000; $12,000; and $13,500.

[49]NEA. Salaries in Higher Education 1967-68, Research Report, R-7. Washington, D.C.: Research Division, 1968.

The NEA claimed that the median salary (1967-1968) for such teachers was $9,165. Breaking the data down further, the NEA found that the median salary for such teachers in the Great Lakes region was $9,319, a close approximation of our estimate. In addition, the NEA estimated that only 5 percent of these teachers earn salaries over $13,500. Our figures showed that 5.6 percent of teachers earned over $13,000. In the same study the NEA stated that the median salary for a teacher in a four-year school in the Great Lakes region was $10,374.

In another study, the National Education Association reported that the average salary of elementary school teachers in Wisconsin (1967-68) was $7,000.[50] The average salary of secondary school teachers in Wisconsin was found to be $7,675 (1967-68).

In sum, the average salary of post-high school vocational teachers in Wisconsin is comparable to the salary of other two-year junior colleges throughout the country. The state vocational teachers' salary falls below that of a teacher in a four-year college, but is substantially above the salary of elementary and secondary school teachers in Wisconsin.

Age and Age Recruited

The average age of vocational teachers in Wisconsin, as noted, is 42 years. Only teachers from cities over 200,000 in population appear to be significantly older (i.e., 45) than the average. Female teachers (43) are significantly (.05) older than male teachers (41.4) but the difference does not appear to be important.[51]

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[50] NEA. Ranking of the States, 1968, Research Report 1968-R1. Washington, D.C.: Research Division, NEA, 1968.

[51] The term significant refers to statistically significant only where a significance level is included.

Not unexpectedly, there is a positive relationship between age and salary level (see Table 9).

Table 9. Salary Distribution by Average Age, N=1020

Under $5000	$5-6999	$7-8999	$9-10999	$11-12999	Over $13000
31.5	33.0	37.4	45.0	49.3	50.0

Apparently, the most important criterion for salary increase (e.g., educational uplifting, job experience, and teaching experience) are all time-related factors.[52]

Sex

No difference was found in the male-female ratio by city size. On the other hand, the male-female ratio varies significantly by the curriculum area. Trade and industry, agriculture, and technical education are almost 100 percent male. In contrast, health and welfare teachers are 96 percent female while home economics teachers are 84 percent female.

Both male and female teachers have approximately the same amount of work experience related to their present assignment (i.e., ten years). Similarly, male and female teachers have approximately the same number of years teaching experience, part-time, full-time, and total time (either related or unrelated to their present assignment).

On the average, male teachers have a slightly higher salary than female teachers. This difference is most obvious in the upper salary range. Whereas one quarter of all male teachers earn $11,000 or more, only 10 percent of female teachers earn that much. Less than 1 percent

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[52]The data shows that age is a proxy for school experience.

of female teachers earn over $13,000 compared to 7.5 percent for male teachers. These differences may be due in large measure to the fact that the average male teacher has been in the system longer than the average female teacher.

City Size

In general, it appears that the larger the city the greater the average amount of related work experience. Milwaukee with 13.5 years related work experience per teacher is at the top. It could be that teachers in larger cities have a greater opportunity to gain related job experience because of the greater labor market opportunities in such cities.

There was no definite trend in part-time teaching experience by city size, although it should be noted that teachers in cities under 25,000 had the largest amount of years part-time teaching experience (six years). In contrast, there was a definite trend for teachers in larger cities to have more full-time teaching experience. The distribution of average full-time teaching experience ranged from eight years in cities under 25,000 to ten years in cities over 200,000. There was a similar pattern for total years teaching experience (either related or unrelated).

There appears to be a positive relationship between city size and salary. The over-all distribution of salary is shown in Table 10. Included in the table is a ranking which indicates whether the percentage distribution in each city size is greater (+) or less (-) than the average. These percentage differentials are ranked to show which

distributions are furthest from the average and in what direction.[53]

Table 10. Percent Salary Distribution by City Size, N=1030

City Size	$5-6999	$7-8999	$9-10999	$11-12999	Over 13000
Over-all % Distrib.	11.36	35.90	31.26	15.63	5.63
Under 25,000	3	3	-3	-2	-2
25-50,000	2	2	-1	-3	-3
50-200,000	1	1	-2	-1	-1
Over 200,000	-1	-1	1	1	1

Only Milwaukee (i.e., over 200,000) has a salary distribution which has an above average percentage distribution in the $9-13,000 salary levels. The breakdown shows that there is a general tendency to have more teachers (%) in the higher salary ranges as city size increases (see Table 10).

There is a statistically significant difference in salary range by city size and the difference is in the direction of a positive relationship (see Table 11).

Table 11. Salary Range by City Size, N=1028

City Size	$5-6999	$7-8999	$9-10999	$11-13999	Over 13000
Under 25,000	27	65	31	13	7
25-50,000	54	145	107	31	9
50-200,000	31	101	75	30	14
Over 200,000	5	59	109	87	28
	117	370	322	161	58

X^2 with 12 Df = 141 ($P < .005$)

The effect of city size on salary appears even when education (no degree, four-year degree, Masters' degree) and years in the system are controlled for. The basic breakdown appears to put cities under 25,000 in population at the lowest salary rung. Cities between 25,000

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[53]The further away the percentage is from the average, the higher the number.

and 200,000 pay similar salaries. The greatest difference in salary, however, appears in cities over 200,000 in population (i.e., Milwaukee). Whereas the first three categories often pay similar salaries for similar educational background and years in the system, Milwaukee usually stands alone, a category above the rest.

Recent Trends

There appears to have been a slight increase in recent years (i.e., since 1963) in the proportion of female teachers entering the system.[54] In 1961-1962, 88 percent of entering teachers were male. In 1967-1968, only 69 percent of entering teachers were male (see Table 12).

Table 12. Teacher Entrance by Sex and Year, N=1072

Year	Male	Female
Before 1950	139 (77%)	42 (23%)
1950-1955	55 (77%)	16 (23%)
1955-1960	75 (66%)	39 (34%)
1961-1962	80 (88%)	11 (12%)
1963-1964	87 (72%)	34 (28%)
1965-1966	183 (68%)	87 (32%)
1967-1968	155 (69%)	69 (31%)
	774 (72%)	298 (28%)

X^2 with 6 Df = 20.0 ($p<.005$)

Vocational teachers were examined to see what percent of teachers entered during each time period. An attempt was then made to see if this percent was constant for all curriculum areas. Each curriculum area was ranked according to how much above or below the average

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[54]The emphasis of the analysis will be on the period 1960-1968 since the teachers in this study are more representative of the population that entered during this period. (See section on Methodology, Chapter I). . . It will be interesting to see if teacher characteristics have changed during this period of rapidly increasing student enrollment (i.e., full-time) and teacher demand (i.e., full-time).

Table 13. Recent Trends in Teacher Entrance by Curriculum Area, N=1074

Curriculum	1969-62	1963-64	1965-66	1967-68
% Distribution	8.57%	11.27%	25.14%	20.86%
Trade and Industry	1	2	-2	-2
Business & Office	4	-2	3	-1
Home Economics	-3	-4	-1	2
Agriculture	-2	-3	-4	4
Distributive	-4	5	5	5
Health	-5	3	4	6
Technical	3	1	1	1
General Academic	2	4	2	3
Coordinator-Supervisors	-1	-1	-3	-3

(percent distribution) it was (see Table 13).

The results show that out of all the curriculum areas, health and welfare and distributive education had the greatest percent of new teachers (i.e., entered since 1963). Ninety-three percent of all distributive teachers and 82 percent or health teachers entered the system since 1963. In comparison, over-all, 53 percent of present vocational teachers entered after 1963. The implication is that these two areas have experienced the greatest relative increase in teacher demand of all the curriculum areas. This increased demand may be due to expansion of the two programs or replacement of existing teachers.

Similarly, it was discovered that general academic and technical teachers had a greater percentage of their teachers (10 percent differential) entering since 1961 than the average. The results substantiate the belief that trade and industry, business and office, home economics and agricultural courses are experiencing a relatively moderate expansion. Also, as expected, coordinator-supervisors were found to be more likely to have entered the system before 1960. Approximately 55 percent

of present coordinator-supervisors entered the system before 1960 compared to 34 percent of the entire teacher-supervisor population.

The results above indicate that differences in teacher characteristics due to increased demand will most likely show up in the distributive, health, technical and general academic curriculum areas since these areas have experienced the greatest relative increase in demand out of all the curriculum areas.

As expected, there is a positive relationship between years in the system and years of related work experience. Teachers entering the system before 1950 have had an average of 14 years related work experience compared to eight and a half years for those teachers who entered the system since 1963. A similar positive relationship was found for years part-time, full-time and total time (related or unrelated) teaching experience.

Using $9,000 as a cutoff point, there appears to be a very strong positive relationship between the year the teacher entered the system and his salary. Teachers are rated in Table 14 according to what percent of teachers in each entrance period are presently earning $9,000 or more.

The results indicate that years in the system is a very important determinant of present salary. It should be remembered that a number of other salary increase factors are also related to years in the system (i.e., job experience, educational uplifting).

The salary differential by years in the system holds up even when educational background and city size are controlled for. Similarly, there is a salary differential by educational background even when city

Table 14. Years in the System by Salary, N=1033

Year Entered	Total No. of Teachers Entering	% Now Earning Over $9000
Before 1950	176	85%
1950-1955	71	84%
1956-1960	107	73%
1961-1962	91	61%
1963-1964	115	55%
1965-1966	262	31%
1967-1968	211	27%

size and years in the system are controlled. Of the 58 teachers who earn over $13,000, 54 of them have Masters' degrees. All of the other teachers (four) have a four-year degree and three of them entered before 1950.

In summation, we have found that educational background, years in the system and city size are all relevant characteristics in determining the salary of vocational teachers.

General Characteristics by Curriculum Area

Trade and Industrial Education

There are 232 post-high school trade and industrial teachers represented in this study. Trade and industrial teachers represent the largest group (i.e., 22 percent) of post-high school vocational teachers in the state. Ninety-nine percent of trade and industrial teachers are male with the average age being 42.

On the average, trade and industrial teachers have had 12 years of related work experience compared to 10 years for the average vocational teacher. T & I subjects, as mentioned earlier, emphasize occupational experience, so this relationship is not unexpected.

T & I teachers have had greater part-time (5½ years) and full-time

(ten years) teaching experience than the average teacher. Total related or unrelated teaching experience is the same for T & I teachers as for other teachers.. In sum, T & I teachers are more experienced both occupationally and professionally than the average vocational teacher. Trade and industrial teachers have an average saiary of $9,000 which is slightly below average for all teachers.

Business and Office Education

There are 158 post-high school business teachers included in this study. Almost half (47%) of the teachers are female, reflecting the concentration of female workers in office and clerical positions. The average age of business and office teachers is 40.

On the average, business and office teachers have had seven years related work experience, three years less than the average and five years less than T & I teachers. On the other hand, business and office teachers average three and a half years part-time teaching experience, eight and a half years full-time teaching experience, and ten years total teaching experience (either related or unrelated), all of which are approximately average.

B & O teachers have an average salary of $8,500 which is $800 below the average for all vocational teachers. This $800 salary differential may be due to the fact that 64 percent of B & O teachers have been in the system five years or less. In addition, almost 60 percent of B & O teachers teach in cities under 50,000 in population. Both of these factors have been found to be related to lower salary levels.

Distributive Education

There are 33 distributive education teachers participating in the study. Eighty-five percent of these teachers are male. The average distributive education teacher is only 35, seven years below the average of all vocational teachers.

Not surprisingly, distributive education teachers have fewer years teaching experience either part-time (3½), full-time (4) or total time (4, either related or unrelated). Distributive teachers average five to seven years less full-time teaching experience than other vocational teachers. On the other hand, distributive teachers have about the same amount of related work experience (nine years) as other teachers. The average salary of distributive teachers is $8,200.

Health and Welfare Education

There are 82 post-high school health and welfare teachers represented in this study. Ninety-six percent of health and welfare teachers are female with the average age of such teachers being 42. Not unexpectedly, this curriculum area has a greater proportion of female teachers than any other curriculum area.

On the average, health and welfare teachers have had 12 years related work experience two years above the average. Health and welfare teachers have had less part-time (four years), full-time (six years) and total time (seven years, related or unrelated) teaching experience than the average vocational teacher. It appears that H & W teachers are more likely to stay in their occupation longer and as a result have less teaching experience. Their significantly higher

age at recruitment (i.e., 38 years) would seem to bear this out.

The average salary of health and welfare teachers is $8,500 which is almost $1,000 below the average salary of all vocational teachers. The lower salary level is probably due to the fewer years of teaching experience of H & W teachers and possibly because of lower educational qualifications. We shall examine education qualifications in the next section to see if this is true.

Technical Education

There are 104 technical education teachers in this study. Only one of these teachers is female. The average age of these teachers is 41 years.

On the average, technical teachers have had ten years of related work experience. Technical teachers average four years part-time and eight years full-time teaching experience, both approximately average. Technical teachers have also had about nine years of total related or unrelated teaching experience, also approximately average.

Technical education teachers have an average salary of approximately $9,300. This is the highest average salary level of all curriculum areas. Only coordinator-supervisors earn more.

General Academic Education

There are 205 general academic teachers represented in this study. Approximately two-thirds of all general academic teachers are male. The average age of such teachers is 40, with male teachers averaging 38 years and female teachers 43 years.

General academic teachers average three years related part-time teaching experience and nine years related full-time teaching experience. The teaching experience of general academic teachers is about average for part-time, full-time, and total time (related or unrelated) teaching experience.

The average salary of general academic teachers is $8,800, which is about $1000 higher than the average salary of teachers in the Wisconsin secondary school system (NEA study). The difference, however, may be due to other factors including educational background, years in the system, and city size.

Coordinator-Supervisors

There are 213 teacher coordinator-supervisors in this study. Approximately three-quarters of the coordinator-supervisors are male with the average age of all supervisors being 46. As a group, coordinator-supervisors are four and a half years older than the average vocational teacher.

On the average, coordinator-supervisors have had 15 years of teaching experience either related or unrelated to their present assignment. Thus, coordinator-supervisors average from four to 11 more years teaching experience than teachers in other curriculum areas.

The average salary of coordinator-supervisors is $11,300. This salary, while far in excess of any of the curriculum areas, is a conservative estimate. Almost one-third of coordinator-supervisors earn over $13,000. This group was assumed to earn an average of $13,500 which is probably a low estimate. Regardless, the second highest salary range is still $2,000 below that received by coordinator-supervisors.

CHAPTER III

THE EDUCATIONAL BACKGROUND OF VOCATIONAL TEACHERS

Overview

Approximately 85 percent of Wisconsin vocational teachers now employed originally entered the V.T.A.E. system with a four-year college degree or higher (see Table 15).

Table 15: Educational Distribution at Time of Entrance, N=1067

Educational Status	Number	Percent
Apprenticeship graduate	15	1.41
H. S. graduate	37	3.47
Two-year Assoc. degree graduate	24	2.25
Some college (including three-year nursing & military-tech. graduate)	91	8.53
Four-year college graduate	409	38.33
Graduate credits	243	22.77
Master's degree	164	15.37
Post-Master's credit	84	7.87
TOTAL	1067	100.00

The distribution of educational status varies by curriculum area. Trade and Industrial teachers account for over 50 percent of those teachers who entered the system with less than a four-year college degree. This fact is not surprising since Trade and Industrial subjects emphasize occupational experience. Wisconsin certification requirements reflect this emphasis by requiring three times the occupational experience for T & I subjects than for any other curriculum area.[55] Educational status will be examined more closely in the individual sections on curriculum area.

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[55] 1½ years for provisional certification, 3 years for Standard Certification.

Successful progress from Provisional Certification to Standard Certification is contingent upon the teacher taking a minimum of six credits or three months work experience or a combination of these, in any two-year period.[56] Standard Certification is dependent on the teacher taking 12 approved education credits beyond that taken for the college degree.

These certification requirements are reflected in the present educational level of vocational teachers (see Table 16).

Table 16. Educational Distribution at the Present Time, N=1063

Educational Status	Number	Percent
Apprenticeship graduate	4	.38
H. S. graduate	7	.68
Two-year associate graduate	11	1.03
Some college (including three-year nursing and military-tech graduate)	95	8.94
Four-year college degree	134	12.61
Graduate credit	378	35.56
Master's degree	206	19.38
Post-Master's	228	21.45
TOTAL	1063	100.00

The two educational distribution charts indicate that there is a slight tendency for those without a college degree to attain one. It should be noted that while 15.5 percent of the teachers originally entered without a four-year degree, presently only eleven percent do not have a four-year degree. There is a very strong tendency, as expected, for teachers with four-year degrees to go on for graduate credit and Master's degrees. Only 46 percent of the teachers at entrance had taken coursework above a four-year degree. Presently, over three-

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[56] See Appendix H--Certification requirements.

quarters of the teachers have taken such credit. Importantly, 41 percent of vocational teachers now have a Master's degree or higher compared to 23 percent at entrance.

It is apparent that vocational teachers in the State of Wisconsin are actively engaged in improving their educational status. When asked whether or not they were working for a degree at the present time, 41 percent of the teachers said yes. It was found that approximately one-half (52) of the teachers without a four-year degree were presently attempting to earn one. Not surprisingly, 60 percent (326) of teachers with a four-year degree or graduate credit were attempting to earn a Master's degree. Approximately 10 percent (40) of those with a Master's degree or higher were attempting to study for a Ph.D.

At the present time, 45 percent of Wisconsin vocational teachers are provisionally certified while 55 percent have standard certification. It is not surprising that 45 percent are only provisionally certified, since there is a requirement of three years teaching experience in the system for standard certification. Since 46 percent of Wisconsin vocational teachers entered the system in 1965 or later, it is reasonable to assume that many of them had not had the required three years teaching experience when the survey was taken. Indeed, over three-quarters of these teachers were only provisionally certified.

Lastly, Wisconsin vocational teachers were asked whether they received the majority of their education in Wisconsin. Three-quarters of all vocational teachers answered they received the majority of their education in Wisconsin. There were significant differences in this answer according to the curriculum area taught.

Age and Age Recruited

An examination of the educational distribution at the time of entrance indicates two different trends in the recruitment age level of teachers (see Table 17). Teachers who entered the system without a four-year degree were older on the average that those who entered with such a degree. Within this dichotomy, teachers who educationally bettered themselves were found to be older.

Table 17. Entrance Educational Distribution by Age at Recruitment, N=1046

Apprenticeship grad.	34.4	Four-year college degree	32.7
High School grad.	36.2	Graduate credit	33.0
Two-year Assoc. degree	35.9	Masters	35.0
Some College	38.4	Post-Masters	38.0

The present educational level of vocational teachers by age exhibits a similar dichotomy. Statistics again show a difference in average age of teachers with and without a four-year college degree. Teachers with only an apprenticeship background or high school diploma are oldest. Teachers with a four-year degree or graduate credit are youngest. Again, teachers who furthered their education beyond the four-year degree are older on the average than those who have only a four-year degree.

Vocational teachers were asked if they were presently working for a degree. It was found that there was a significant difference (p .01) in the average age of those teachers working for a degree (37) compared to the age of those not working for a degree (45). Not unexpectedly, those not working for a degree were significantly older than those working for a degree.

There was no apparent consistency between the ranking of the degree the teacher was working toward and his age. In fact, teachers who were working for Masters and Ph.D.'s were younger on the average than those working for a Bachelors or associate degree. It appears that those teachers working on the Master's degree are the new teachers who are somewhat more likely to enter the system with a four-year degree.

Sex

Except for two categories the distributions of educational status for each sex was almost identical. The only difference in education observed is that a greater percentage of female teachers had a four-year degree (as their highest degree) than males, while a greater percentage of male teachers had a high school degree (as their highest degree) than female teachers. The slight difference that does exist is basically a reflection of the fact that trade and industrial teachers, who are almost 100 percent male, have the greatest number of teachers without a four-year college degree.

The distribution of present educational level for each sex again shows that male and female teachers have almost identical educational achievements. A greater percent of female teachers have a four-year degree (as their highest degree) while a greater percent of male teachers have a Master's degree as their highest degree.

The results indicate that male teachers who entered with a four-year degree are somewhat more apt to have a Master's degree today than female teachers who entered with a four-year degree. The best explanation is that male teachers with four-year degrees have been in the

system longer than similar female teachers. Forty-five percent of male teachers entered before 1962 compared to 35 percent of female teachers who entered before that year. It appears that male teachers with more time to get a Master's degree are more likely to have one.

Sex was determined to be unimportant as a determinant of whether or not vocational teachers were seeking another degree. Both male and female teachers were equally likely to be working toward another degree. Similarly, there was no importance placed in the relationship between the type of degree the teachers were working toward and their sex.

Wisconsin teachers were asked where they received the majority of their post-high school education. Male teachers were significantly ($p < .01$) more likely to have received their education in Wisconsin than female teachers. Seventy-eight percent of male teachers received their education in Wisconsin compared to only 70 percent of female teachers. However, the results still indicate a strong tendency for both male and female teachers to have received their education in Wisconsin.

City Size

The educational distribution of teachers at the time of entrance does not vary significantly by city size. No particular city size was found to have exceptionally high or low educational backgrounds among their teaching staff. This result is not unexpected since educational requirements are uniform throughout the state.

There is no consistent relationship between city size and the present educational level of teachers. City size was not an important variable in determining whether teachers were working on a degree or

in determining which degree teachers were working on. It should be noted that cities over 200,000 in population have the largest percentage of teachers going for Associate degrees and Bachelor degrees. One reasons for this is that cities over 200,000 in population have the largest percentage of teachers without a four-year degree. However, this difference still does not account for Milwaukee's large percentage of teachers going for an Associate or Bachelors degree. For some reason, Milwaukee teachers without a four-year degree or associate degree are more likely to be going for such degrees than similar teachers in other cities. Seventy percent of Milwaukee teachers without a four-year degree or associate degree were working toward such degrees while less than 50 percent of similar teachers were working for these degrees.

Recent Trends

The educational status of vocational teachers appears to vary importantly by the year the teacher entered the system (see Table 18).

Table 18. Educational Status by Year Entered, N=1064

Year	No 4-yr. deg.	4-yr. deg.	Grad. cred.	Master's/plus
Before 1950	29%	47%	12%	12%
1950-1955	25%	45%	13%	17%
1956-1960	20%	44%	20%	16%
1961-1962	16%	37%	24%	23%
1963-1964	12%	44%	19%	25%
1965-1966	10%	35%	25%	30%
1967-1968	8%	29%	35%	28%

Based on the teachers surveyed, it appears there has been a decline in the percent of teachers who enter the system without a four-year degree. Twenty-nine percent of vocational teachers (of those in the study) who

entered before 1950 entered without a four-year degree. In contrast, by 1967 that figure was down to only 8 percent. The percent of teachers entering with a four-year degree as their highest degree has also declined. However, the percent of teachers entering the system with graduate credit or a Master's degree or higher has increased importantly since 1950.

In sum, there has been an increase in the number of vocational teacheres entering with a four-year degree or higher. However, since 1963 this increase has not been as great as in preceeding years .t does not appear that the entrance educational level of vocational teachers has been seriously affected by increasing teacher demand. The leveling off process has been slight and there is no indication of a downturn in the percent of teachers entering with advanced credit or degrees. An examination of the present educational level of vocational teachers indicates a similar positive relationship between years in the system and educational level.

Teachers were also asked whether they were presently working for a degree. The results show that the longer the teacher has been in the system, the less likely (sig. at .005) is he to be working on a degree. Almost 90 percent of the teachers who entered before 1950 replied that they were not presently working on another degree. In contrast, approximately 50 percent of teachers who have entered since 1963 are working on a degree. It appears that teacher who have been in the system many years have already attained another degree and are no longer working on additional credits necessary for standard certification. These results are in line with earlier data which indicated that teacher

salary increases leveled off after a certain number of years in the system.

It was found that the type of present certification was significantly different ($p<.005$) according to the year the teacher entered the system (see Table 19). Ninety percent of teachers who entered before 1955 have standard certification. In comparison, only one-quarter of teachers who entered since 1965 have standard certification.

Table 19. Certification by Year Entered, N=1048

Year	Provisional		Standard	
Before 1950	17	(10%)	162	(90%)
1950-1955	5	(7%)	65	(93%)
1956-1960	24	(22%)	86	(78%)
1961-1962	23	(26%)	67	(74%)
1963-1964	48	(41%)	69	(59%)
1965-1966	188	(70%)	81	(30%)
1967-1968	171	(80%)	42	(28%)

X^2 with 6 Df = 343 ($p<.005$)

The results are a reflection of State Board Certification requirements which require a minimum of three years teaching experience and 12 approved education credits. It is curious that approximately 30 percent of teachers who entered between 1956-1964 still do not have standard certification. Apparently the educational and job experience criterion for certification are often not filled even after the first three years.

Wisconsin vocational teachers were asked where they received the majority of their post-high school education. The results reveal a significant trend for teachers to have received their education from out-of-state in recent years (see Table 20).

Table 20. Post-High School Education, N=1059

Year	In-State		Out-of-State	
Before 1950	155	(88%)	22	(12%)
1950-1955	57	(80%)	14	(20%)
1956-1960	98	(87%)	15	(13%)
1961-1962	66	(84%)	23	(16%)
1963-1964	94	(78%)	26	(22%)
1965-1966	197	(74%)	71	(26%)
1967-1968	140	(63%)	81	(36%)
	807		252	

X^2 with 6 Df = 41.8 ($p < .005$)

The results above may be indicative of an over-all increase in Wisconsin teacher mobility or a reflection of the increased attempts by the State Board to recruit teachers from out-of-state. A close analysis of the section on mobility may help answer this question.

Teacher Education by Curriculum Area

In order to facilitate comparisons among the various curriculum areas, educational status (at the time of recruitment) and present educational level were ranked and standardized according to:

	Ranking	Number
1. No four-year degree	1	n_1
2. Four-year degree or graduate credit	2	n_2
3. Master's degree or higher	3	n_3

$$\text{Educational Index} = \frac{n_1(1) + n_2(2) + n_3(3)}{N}$$

Trade and Industrial Education

Overview. Trade and industrial teachers have the lowest educational background of all vocational teachers. T & I teachers have the lowest entrance educational index (1.6) and the lowest present educa-

tional index (1.9). These results are not unexpected. As mentioned previously, trade and industrial teachers represent over half of all teachers who entered the system without a four-year degree. Presently, trade and industrial teachers represent 60 percent of those teachers in the system without a four-year degree.

Forty percent of T & I teachers originally entered the system without a four-year degree. Presently, about 30 percent of T & I teachers still do not have such a four-year degree. Only 12 percent of T & I teachers originally entered with a Master's degree or higher. At the present time, one quarter of T & I teachers have such advanced degrees. In summary, trade and industrial teachers are less likely than the average vocational teccher to have a four-year degree or a Master's degree either initially or at the present time.

Trade and industrial teachers are as likely as the average vocational teacher to be working on a degree or to be provisionally certified. However, T & I teacher are more apt to be working on a bachelor's degree than the average teacher.

Lastly, it was discovered that T & I teachers are more likely to have received the majority of their post-high school education in Wisconsin (86%) rather than out-of-state.

Recent Trends. The educational status of T & I teachers in this study vary according to the year the teacher entered the system (see Table 21). In general, there appears to be an upward trend in entrance educational status of new T & I teachers. The proportion of T & I teachers (in our study) entering without a four-year degree has declined, while the proportion of teachers entering with a four-year

Table 21. T & I Teacher Educational Status by Year, N=231

Year	No 4-yr deg	4-yr deg	Grad cred	Masters-plus	N
Before 1950	60%	34%	2%	4%	50
1950-1955	42%	33%	17%	8%	24
1956-1960	66%	19%	10%	5%	21
1961-1962	47%	26%	11%	16%	19
1963-1964	30%	44%	7%	19%	27
1965-1966	28%	36%	19%	17%	47
1967-1968	16%	35%	35%	14%	43

degree as their highest degree has remained fairly constant. In contrast, the proportion of teachers entering with graduate credit or a Master's degree has jumped sharply.

During 1967-1968, 16 percent of T & I teachers still entered the system without a four-year degree compared to an 8 percent average for all vocational teachers. At the other extreme, only 14 percent of T & I teachers entered with a Master's degree during this period compared to 28 percent of all vocational teachers. Trade and industrial teachers have consistently hada lower entrance educational status than the average vocational teacher.

There does not appear to be any strong trend for T & I teachers to have received their education from out-of-state. Only in 1967-1968 was the number of teachers educated out-of-state substantial (28%).

Business and Office Education

Overview. Business and office teachers have an entrance educational index of 2.0 and a present educational index of 2.2. In both cases the comparative educational level of B & O teachers was in the middle third range for all curriculum areas. Only 7 percent of B & O teachers entered without a four-year degree, while 17 percent entered with a Master's degree or higher. At the present time, over one-

quarter of B & O teachers have a Master's degree or higher.

Business and office teachers are as likely as the average teacher to have standard certification. It was discovered that over half of B & O teachers are presently working for a degree. Over 90 percent of these teachers are working for a Master's degree. Approximately one-quarter of B & O teachers received the majority of their post-high school education out-of-state.

Recent Trends. The educational status of business and office teachers has not varied greatly in recent years. Fairly consistently, three-quarters of B & O teachers have entered with a four-year degree as their highest degree. Equally consistently, approximately 15 percent of B & O teachers enter with a Master's degree as their highest degree. Of those teachers who enter without a four-year degree, almost all have had some college. All told, only 11 B & O teachers have entered without a four-year degree.

Starting in 1963, an increasing proportion of B & O teachers received their education (post-high school) from out-of-state. In 1967-1968 over one-fourth of B & O teachers recruited received their education out-of-state.

Distributive Education

Distributive education teachers have the second highest entrance educational background of all vocational teachers (index=2.2). Only general academic teachers enter with a better background. All distributive education teachers have at least a four-year degree. Almost one-fifth enter with a Master's degree.

Presently, disrributive education teachers have an educational

index of 2.4 which is again, second only to general academic teachers. Over 40 percent of distributive education teachers have a Master's degree. Eighty-eight percent of distributive teachers have taken some graduate credit past the bachelor's degree.

Only about one-quarter of distributive teachers have standard certification. The most obvious explanation is that 75 percent of distributive teachers have entered since 1965 and thus have not achieved the required three years of teaching experience.

Fifty-six percent of distributive teachers are working for a degree, which is a higher proportion than any other curriculum area. Almost all are working from a Master's degree.

Less than half of all distributive education teachers have received their education in Wisconsin. This figure is far below the average of 75 percent for all teachers.

Health and Welfare Education

Overview. Health and welfare teachers have the second lowest entrance educational index (1.9) of all vocational teachers. Only T & I teachers enter with a lower educational status. It should be remembered, however, that most practical nursing programs require only some college and not a four-year degree, so that these teachers are not "less qualified" to teach their subject than teachers in other curriculum areas.

All health and welfare teachers entered with at least a two-year degree. The lower entrance educational index of H & W teachers exists because 20 percent of such teachers have had some college, but not a four-year degree. Regardless, three-quarters of H & W teachers entered with at least a four-year degree.

The present educational level of H & W teachers is still relatively low (2.0). Although approximately 80 percent of them have at least a four-year degree, only 20 percent have a Master's degree or higher. Approximately 40 percent of all vocational teachers have a Master's degree, so H & W teachers are far less likely than the average teacher to have such a degree.

Health and welfare teachers are also far less likely than the average teacher to have standard certification. Only 35 percent of the health and welfare teachers are standardly certified. Although H & W teachers are equally likely to be working on a degree as other teachers, they are more likely to be working for a Bachelor's degree and less likely to be working for a Master's. H & W teachers are slightly less likely than the average teacher to have received the majority of their post-high school education in Wisconsin (68%).

Recent Trends. Approximately 80 percent of H & W teachers now in the system have entered since 1963. Since 1963, there has been a decrease in the proportion of teachers entering without a four-year degree. During that same period, approximately one-third of H & W teachers received their education out-of-state.

Technical Education

Overview. Technical education teachers are in the middle range of educational status at the time of entrance (index = 2.0). Approximately 17 percent of technical teachers originally entered without a four-year degree. Most of these teachers had at least some college background.

At the present time, 13 percent of technical teachers do not have

a four-year degree, but all have had at least some college courses (index=2.2). Thirty-six percent of technical teachers presently have a Master's degree compared to 21 percent who originally entered with such a degree.

As of 1968, half of the technical teachers have standard certification. Forty-one percent of technical education teachers are working on another degree, mostly the Masters. Approximately three-quarters of technical teachers received their post-high school education in Wisconsin.

Recent Trends. An examination of technical teacher educational background indicates an upward trend in the entrance educational status of new technical teachers (see Table 22). Of those teachers, still in the system, who entered before 1963, 32.5 percent do not have a four-year degree. Only 10 percent have Master's. In contrast, over the last

Table 22. Technical Teacher Educational Status by Year, N=103

Year	No 4-yr deg	4-yr deg or more	Masters or more	N
Before 1963	32.5%	57.5%	10.0%	40
1963-1964	8.0%	75.0%	17.0%	12
1965-1966	10.0%	62.0%	28.0%	29
1967-1968	0.0%	64.0%	36.0%	22

five years there has been a steady decrease in the number of teachers entering without a four-year degree. In 1967-1968, no new technical teacher entered without a four-year degree. The proportion of teachers entering with at least a Master's degree has increased approximately 12 percent per year since 1963. By 1967-1968, 36 peccent of entering teachers had a Master's degree.

Since 1963, there appears to be an upward trend in the proportion

of teachers who received their education out-of-state.

General Academic Teachers

Overview. The educational background of general academic teachers is the highest among all the curriculum areas in the Wisconsin vocational system. Only coordinator-supervisors have a better educational background. It should be noted here that general academic teachers do not face the rigid occupational experience requirement that other curriculum areas must fulfill. Consequently, general academic teachers are left with more time to increase their educational background as opposed to other teachers who spend an average of ten years in other occupations.

The entrance educational index of general academic teachers is 2.3. Only 3 percent of general academic teachers entered without a four-year degree. Thirty-five percent of general academic teachers entered with a Master's degree, well above the average.

Presently, only three general academic teachers do not have a four-year degree (1.5%). In contrast, approximately half of the general academic teachers have a Master's degree. This is the highest proportion of teachers with a Master's degree among all the curriculum areas. The present educational index for general academic teachers is 2.5

Over half of all general academic teachers have standard certification. Forty-five percent of general academic teachers are working for a degree, mostly the Master's (80%) and Ph.d (14%). General academic teachers are as likely as other teachers to have received the majority of their post-high school education out-of-state.

Recent Trends. Since 1961, only two general academic teachers have entered the system without a four-year degree. During that same period,

approximately 62 percent of general academic teachers entered with a four-year degree and 37 percent with a Master's. These levels have been failry constant since 1961. There does not appear to be any strong trend for general academic teachers to have received their education from out-of-state during this period.

Coordinator-Superivisors

The future coordinator-supervisor entered the system with a better educational background (index=2.3) than any other teaching group except general academic teachers. Seven percent of future coordinator-supervisors entered without a four-year degree, while 35 percent entered with a Master's degree or higher.

Presently, coordinator-supervisors have the highest educational attainment (index=2.7) of all curriculum areas. Only two coordinator-supervisors (1%) do not have a four-year degree. More importantly, three quarters of all coordinator-supervisors have a Master's degree. But simply, coordinator-supervisors represent only 20 percent of the teachers surveyed, but 37 percent of teachers with a Master's degree or higher. Approximately two-thirds of coordinator supervisors have standard certification. This figure is not surprising since approximately three-fourths of coordinator-supervisors entered the system before 1965.

Coordinator-superivsors are less likely than the average teacher to be working on a degree (only 23% are), however, a greater proportion of coordinator-supervisors are working on a Ph.d. than in any other curriculum area. Coordinator-supervisors represent 30 percent of the teachers going on for a Ph.d. Lastly, coordinator-supervisors are as likely as the average teacher to have received the majority of their education out-of-state.

CHAPTER IV

THE UTILIZATION OF VOCATIONAL TEACHERS

Overview

Utilization at the Present Time

The average vocational teacher teaches three and one-half different courses although they all may be in the same curriculum area. Only 17 percent of vocational teachers teach in more than one curriculum area. The number of such teachers teaching in more than one area varies with the major curriculum area taught.

Vocational teachers were asked whether the subject area in which they were teaching was:

1. Entirely in their area of specialization;
2. Entirely in their area of certification;
3. Entirely in both their area of specialization and certification;
4. Partly in their area of specialization and certification;
5. Entirely in areas other than their specialization and certification.

The response indicated that vocational teachers were generally not teaching in areas outside of their certification or specialization. Approximately one-half of one percent of teachers were teaching in areas entirely outside their specialization and certification. Over 60 percent of the teachers were teaching in areas entirely in both their specialization and certification. Another 22 percent of the teachers were teaching either entirely in their area of certification (7%) or entirely in their area of specialization (15%). The remaining teachers stated they were teaching partly in their area of specialization and certification.

Vocational teachers are often asked to teach in night school or handle an extra-curricular student activity in addition to their regular class assignment. Such additional activities are a good measure of the degree to which teachers are utilized.

Thirty percent of vocational teachers responded that they did hold an extra curricular position pertaining to students in their school. The number varied according to the curriculum area. Most of the teachers engaged in such extra-curricular activites limited themselves to only one such position.

Perhaps surprisingly, over 50 percent of all teachers and teacher coordinators surveyed, responded that they taught, coordinate or supervised in night school in addition to their regular position. The breakdown by curriculum area was very significant with a range of 4 percent (Health and Welfare teachers) working at night to 70 percent (teacher coordinator-supervisors) working at night. This breakdown will be discussed more fully in other sections.

Utilization Change

Vocational teachers were asked whether their class contact hours per week and students per class had increased or decreased over the last three years. (Vocational teachers not in the system over the last three years were not eligible to answer.)

The choices were ranked according to:

	Rank	Class hrs	Students
1. Increased greatly	5	9%	17%
2. Increased slightly	4	19%	29%
3. Remained approximately the same	3	50%	41%
4. Decreased slightly	2	19%	11%
5. Decreased greatly	1	3%	2%

The weighted ranking for each question was divided by the total number of people answering to standardize the score. The resulting standardized score was then referred to as a Utilization Change Index.

Vocational teachers, in answering the question on class contact hours per week received an over-all Utilization Change Index of 3.10, which indicates that the number of class contact hours remained approximately the same. This result is not unexpected since there is a limit on class hours established by each school.

The number of students per class did appear to increase. Teachers received a Utilization Change Index of 3.50 on this question. It appears that the number of students per class has increased slightly over the last three years. There has been apparently no great over-all increase in teacher utilization over the last three years as measured by these two variables.[57] In subsequent chapters the Utilization Index will be used to compare the various curriculum areas.

A question on teacher salary increase over the last three years was included in this section on teacher utilization. It is believed that teacher salary schedules will to some degree reflect teacher utilization and perhaps the supply and demand situation.

Table 23. Percent Salary Increase Over the Last Three Years, N=735

	Under 5%	5-10%	11-20%	21-30%	Over 30%	Total
Number	38	127	222	191	157	735
Percent	5.17%	17.28%	30.20%	25.99%	21.36%	100.00%

[57]It should be noted that other variables, such as teacher preparation time, must be examine before one can generalize about teacher work loads.

Teacher salary increases over the last three years appear to have been substantial with close to 50 percent of eligible teachers receiving salary increases of over 20 percent (see Table 23).

There appears to be no important difference in the salary increase distribution among the various curriculum areas. No one curriculum area appears to have received an exceptionally high or low percent of salary increase. Only coordinator-supervisors appear to have a slightly higher salary increase range. A more detailed discussion of salary range will appear in the individual curriculum sections.

Vocational teacher salary increases are comparable to those received by continuing faculty in both public junior colleges and four-year colleges throughout the country. The NEA estimates are included below for comparison.[58]

Table 24. Percent Salary Increase in Colleges

Years	Median Percent Salary Increase	
	Junior College	Four-year College
1964-65 to 1965-66	5.9%	6.9%
1965-66 to 1966-67	6.1%	6.7%
1966-67 to 1967-68	8.1%	7.4%

Age and Age Recruited

Utilization at the Present Time

It was found that teachers who hold an extra-curricular position are significantly ($p < .05$) younger (38) than those who do not hold such a position (42). However, vocational teachers who taught in night

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[58]NEA. Salaries in Higher Education 1967-68, Research Report 1968-R7 (Washington, D. C.: NEA Research Division, 1968).

school were not significantly different (p=.05) in age from those who did not.

Utilization Change

Teacher salary increase over the last three years was examined. It was found that the greater the percentage salary increase over the last three years, the younger the teacher. Teachers who received a salary increase under 5 percent average 47 years in age, while those receiving over a 30 percent increase average 41 years of age.

The implication is that perhaps these older teachers (47), who have been in the system approximately 13 years, have already taken advantage of all the time related salary increase factors. It may be that after a certain number of years teacher salaries increase at a very slow step-wise rate. These teachers are no longer eligible for incentive increases for education and job experience. Indeed, they are given only a slight increase for continuing service to the system. If this be the case, it may very well indicate an important area for retention experimentation.

Sex

Utilization at the Present Time

An examination of the data indicates there is no significant difference in the proportion of male or female teachers who held an extra-curricular position (see page 43). In contrast, it was discovered that male teachers are much more likely to teach in night school than female teachers. Sixty-five percent of male teachers teach in night school compared to only 27 percent of female teachers (see Table 25).

The difference apparently arises partly because female teachers predominate in health and welfare subjects which are not taught at night by

Table 25. Night School, N=1052

Sex	Yes	No
Male	490	266
Female	80	216

X^2 with 1 Df = 120 (p .005)

full-time teachers. The nursing program at night is small because there is relatively little room for advancement and specialization within the practical nursing profession.

Utilization Change

There does not appear to be any significant difference by sex in the number of class hours taught per week over the last three years, or in the number of students per class over the last three years. In addition, there does not appear to be any significant difference in teacher salary increase over the last three years, by sex.

City Size

Utilization at the Present Time

There is an important difference in the number of teachers holding an extra-curricular position by city size. Teachers in cities over 200,000 in population are far less likely to hold an extra-curricular position (18%) than any other city size. Teachers in cities between 25,000 and 50,000 are the most likely to hold an extra-curricular position (40%).

There is a statistically significant tendency for teachers in smaller cities to teach in night school. Generally the smaller the city size (i.e. school size) the more likely is the teacher to teach in night school (see Table 26).

It would appear that smaller cities are more likely to ask or demand

Table 26. Teacher Utilization by City Size, N=1050

City Size	Night School			
	Yes	%	No	%
Under 25,000	101	(69)	45	(31)
25-50,000	211	(59)	145	(41)
50-200,000	150	(56)	117	(44)
Over 200,000	108	(38)	173	(62)
	570		480	

X^2 with 3 Df = 45.4 (p .005)

that their teachers teach in night school because of the smaller pool of teachers (especially part-time) available.

Utilization Change

In general, the number of class hours per week and the number of students per class over the last three years did not vary by city size. Similarly, there does not appear to be any consistency between salary increase and city size. It should be noted, however, that cities with populations over 200,000 are somewhat more likely (10% differential from average) to have increases of 20 percent or more.

Recent Trends

Utilization

It was found that teachers who have entered the system since 1962 are significantly (.005) less likely to be teaching in night school than those who entered before 1962. Sixty-four percent of teachers who entered during 1961-1962 teach in night school compared to 41 percent of those teachers entering in 1967-1968. It may be that teachers are not offered a position in night school until they have been teaching a certain number of years or have standard certification. Thus, the results are not necessarily an indication of the declining use of full-time day teachers in

night school. It should also be remembered that coordinator-supervisors who are much more likely to teach in night school (70%) are also much more likely to have entered the system before 1961-1962. In addition, health and welfare teachers who are more likely not to teach in night school are more likely to have entered the system later (i.e., after 1961-1962). These two curriculum areas probably account for the smaller proportion of new teachers teaching in night school.

Teacher Utilization by Curriculum Area

Trade and Industrial Education

Utilization at the Present Time. The average T & I teacher teaches about 3.5 subjects. Almost one-quarter of trade and industrial teachers teach in more than one curriculum area. This proportion is significantly above the average (17%).

Trade and industrial teachers were found to be slightly less likely to hold an extra-curricular position than the average teacher (23% v. 30%). On the other hand, T & I teachers are much more likely to teach in night school. Sixty-seven percent of T & I teachers teach in night school, compared to 54 percent of all vocational teachers.

Apparently, an insufficient number of occupationally and professionally qualified potential teachers are available for night school teaching. Many specialists in trade and industry are occupationally qualified, but lack the educational requirements necessary for even provisional certification. As a result, full-time T & I teachers are used extensively in night school.

Utilization Change. This and subsequent sections on utilization change will make use of a utilization index similar to the educational

index. Varying degrees of utilization have been ranked, weighted, and standardized to yield a utilization index.

An examination of T & I teacher utilization change reveals that the change in the number of students per class (index = 3.50) and number of class hours per week (3.10) over the last three years is approximately equal to the average change for all vocational teachers. On the other hand, it was found that the percent salary increase over the last three years was slightly less than the average for all vocational teachers.

Business and Office Education

Utilization at the Present Time. The average business and office teacher teaches about four subjects. It is unusual for a B & O teacher to teach in more than one curriculum area. Only 6 percent of B & O teachers teach in more than one curriculum area.

Business and office teachers were found to be much more likely to hold an extra-curricular position (44%) than the average teacher. However, B & O teachers are not any more likely to hold a position in night school (50%) than the average teacher.

Utilization Change. An examination of business and office teacher utilization change shows that the change in the number of students per class (index = 3.40) and number of class hours per week (index = 3.00) over the last three years approximates the average for all teachers.

Distributive Education

Utilization at the Present Time. The average distributive education teacher teaches just over four subjects. Approximately one-fifth of these teachers teach in more than one curriculum area.

Three-quarters of all distributive teachers hold an extra-curricular position. This proportion is far in excess of the average. Distributive education teachers are as likely to teach in night school as the average vocational teacher.

Utilization Change. Distributive education teachers are not very likely to have had an increase in the number of class hours per week (index = 3.10) but they are more likely than the average teacher to have had an increase in the number of students per class (index = 4.0). Approximately 70 percent of distributive teachers indicated that the number of students per class had increased slightly or greatly. The percent salary increase of distributive teachers was about average.

Health and Welfare Education

Utilization at the Present Time. The average health and welfare teacher teaches about two and a half subjects. Only 13 percent of such teachers teach in more than one curriculum area.

Health and welfare teachers are less likely to hold an extra-curricular position (20%) than other vocational teachers. They are significantly less likely than other teachers to teach in night school. Apparently, practical nursing is not a major subject in night school since it does not lend itself to advanced degrees and specialization for nurses who might wish to advance themselves in a night school program.

Utilization Change. H & W teacher utilization change appears to be greater than the average. Health and welfare teachers report a slight increase in the number of class hours per week (index = 3.5) and a slight increase in the number of students per class (index = 4.0).

Relatively, H & W teacher utilization change has increased more than any other curriculum area. The H & W teacher utilization change index was the highest for both class contact hours and students per class. In contrast, the percent salary increase of H & W teachers was below average.

Technical Education

Utilization at the Present Time. The average technical teacher, teaches four different subjects. One-quarter of technical teachers teach in more than one curriculum area. This is above average and is due to the fact that technical education lends itself well to the work done in a number of other curriculum areas.

Approximately 30 percent of technical teachers hold an extra-curricular position while 54 percent teach in night school. Both proportions are about average for all vocational teachers.

Utilization Change. An examination of technical teacher utilization change reveals that the change in the number of students per class (index = 3.60) and number of class hours per week (index = 3.10) over the last three years is approximately equal to the average for all vocational teachers. The percent salary increase over the last three years is also about average.

General Academic Education

Utilization at the Present Time. The average general academic teacher teaches three subjects. General academic teachers are not any more likely than the average teacher to teach in more than one curriculum area.

General academic teachers are less likely than the average teacher

to hold an extra-curricular position (23%) or to teach in night school (46%).

Utilization Change. General academic teachers were the only teachers to report that the number of class hours per week had decreased, although only slightly (index = 2.40). In addition, although general academic teachers did report a slight increase in students per class, the reported index was the lowest for all curriculum areas (index=3.40). The percent salary increase reported by general academic teachers was about average.

Coordinator-Supervisors

Utilization at the Present Time. Coordinator-supervisors are more likely to teach or supervise in night school than any other group of teachers. Seventy percent of coordinator-supervisors teach, supervise or coordinate in night school. Only trade and industrial teachers approach this proportion.

Utilization Change. Coordinator-supervisors were more likely than any other curriculum area to have received a salary increase of 20 percent or more over the last three years. Fifty-six percent of coordinator-supervisors received a pay increase of over 20 percent in the last three years, compared to 47 percent for all vocational teachers.

CHAPTER V

THE SOURCES OF VOCATIONAL TEACHERS

Overview

One very important point must be emphasized before the sections on sources and recruitment are discussed. Throughout this paper, there will be reference to the best source, or best recruitment technique, or most important source or recruitment technique. It should be noted that, at all times, the term best or most important refers only to the volume of teachers recruited through these means and not to the quality of such teachers. There is no intention to make any quality judgments in this paper about recruitment sources or techniques.

The expansion of vocational programs is evidenced by the distribution of teacher entrance into the vocational system. Approximately half of the current full-time staff have been in the system five years or less (see Table 27).

Table 27. Teacher Entrance into System by Year, N=1074

	Before 1950	1950-55	1956-60	1961-62	1963-64	1965-66	1967-68	Total
Number	182	71	114	92	121	270	224	1074
Percent	16.95	6.61	10.61	8.57	11.27	25.14	20.86	100.00

Teacher entrance into the system is not an exact measure of expansion since it does not distinguish between new teachers and replacements. Teacher entrance, however, is a good indicator of the increasing demand for teachers be it for replacement or expansion purposes. Starting in 1965, there appears to have been a substantial

increase in teacher hirings compared to the years 1961-1964. There will be no attempt to generalize about teacher hiring trends before 1960, since many of those teachers may have left the system.

There is some indication that the teachers now present in the vocational system are quite representatiave of those hired in each period. There are presently in the system 182 teachers or 17 percent who have been in the system 18 years or longer. Twenty-two percent have been in the system at least 13 years. There has been much written about the retention problem of vocational teachers but these results indicate that the turnover problem may not be as great as previously thought.

The average age of vocational teachers at the time of recruitment was found to be 34.[59] This relatively advanced age for recruitment is a result of the occupationally demanding certification standards of the state. College degrees alone are not enough, as evidenced by the fact that only one out of five vocational teachers came directly out of a college program.

It was found that 17 percent of full-time vocational teachers originally entered as part-time teachers. Part-time teachers are significantly better sources for certain types of teachers. The relative importance of part-time teachers will be discussed later in the chapter.

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[59] Age at time of recruitment is a rough approximation. Teachers were asked their present age and the period in which they entered the system. An approximate number of years in the system was then estimated for each period, usually using the median year of the period (i.e., Before 1950=20 years, 1950-55=15 years, 1955-60=10 years, 1961-66=7 years, 1963-64=5 years, 1965-66=3 years, 1967-68=1 year). Obviously, the age of teachers recruited from 1960-1968 will be more accurate since the time period and therefore margin for error are smaller. The years in the system was subtracted from present age, to give a derived age at time of recruitment.

The four most commonly used sources of vocational teachers, in order, were: persons employed in business or industry, general academic teachers and administrators in public school systems, students in teacher education programs in college and teachers of vocational subjects in a high school system (see Table 28).

Table 28. Teacher Sources, N=1044

Source	Number	Percent
Business and Industry	343	32.85
Student in teacher education program	164	15.71
Student in nonteacher education program	34	3.26
Teacher of vocational subject in high school	142	13.60
General Academic teachers and administrators in public school	166	15.90
Teachers in another voc-tech system	24	2.30
Military personnel and civilians teaching therein	35	3.35
Teachers in college or junior college	50	4.79
Teacher, student or practicing nurse	57	5.46
Housewife or unemployed	29	2.78
TOTAL	1044	100.00

College and junior college teachers were a surprising source of 50 teachers (5%). The military, which is often pointed to as an important potential source of vocational personnel placed only 35 teachers in the system (3.5%).[60] The military cannot be considered a good source at this time since it supplies about the same number of teachers as does the unemployed-housewife category.

Business and industry was by far the greatest source of vocational teachers. An attempt was made to go into more detail into the characteristics of those teachers who came from business or industry. It was

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[60]Kenneth Bates. "The Potential of Retired Military Personnel as a Source of Junior College Teachers." Ph.d. Dissertation (Austin, Texas: The University of Texas, 1963).

determined that over 90 percent of these teachers came from the manufacturing industry (41%), the service industry (24$), the wholesale and retail trade industry (11%) and the construction industry (9%). The industry source for vocational teachers varied by curriculum area and will be discussed later.

It was found that vocational teachers recruited from business and industry had spent approximately nine years at their occupation at the time they joined the vocational system. These teachers were asked whether they had earned much more (5), slightly more (4), the same (3), slightly less (2) or much less (1) than in their former position in business and industry, when they first became full-time employees of the Wisconsin V.T.A.E. system. The results were ranked, standardized (weighted) and converted into an earnings index.

The over-all standardized earnings index was 2.6 which indicates a tendency for business and industry recruited teachers to accept slightly less money upon entering the system. In total, 70 percent of these teachers indicated that they accepted the same or less money when they entered. This tendency to accept approximately the same or less money was reflected in all curriculum areas, indicating that starting salary alone may not be as important a factor as previously though in inducing potential teachers to leave business or industry. This result casts some doubt on the often heard theory that all that is needed to recruit new teachers is to improve starting salary.

Lastly, an attempt was made to find out if former vocational teachers had served as a good source of those teachers presently in the system. John Thompson in a study at Michigan State University has

indicated that former vocational teachers could be induced to reenter the system.[61] It was found in the present study that 7 percent (59) of Wisconsin's vocational teachers had been former vocational teachers who reentered the system. This percent was uniformly low in all curriculum areas except agriculture (33%) suggesting that former vocational teachers have not been a large source of teachers. It should be noted, however, that almost 10 percent of teacher coordinator-supervisors were former vocational teachers.

Age and Age Recruited

An analysis of this data shows, as expected, that there is an inverse relationship between the average age of the teacher and the year he entered the system. Thus, present age is a pretty good proxy for years in the system.

More importantly, the average age of teachers at the time of recruitment has been examined according to the year the teacher entered the system. The results show that teachers have consistently averaged approximately 34 years of age at the time of recruitment. Since 1950, there is absolutely no over-all tendency for the recruitment of younger or older teachers.

The average age at the time of recruitment varies significant ($p < .01$) by sex but the difference does not appear to be too important. Female teachers at 36 have been on the average two and one half years older tha.. male teachers at the time of recruitment. There does not appear to be

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[51] John F. Thompson, Career Pattern Analysis of a Selected Group of Former Vocational Teachers (Michigan: M.S.U., 1966).

any significant difference between the average age of teachers recruited in different size cities.

It was previously noted that part-time teachers have been a good source of full-time teachers. It was found, however, that there was absolutely no difference in the entrance age of part-time and full-time teachers. It appears, that teachers who first entered as part-time teachers are not any more likely to have been new workers or new graduates. Apparently, both teachers who begin as part-time teachers and those who begin as full-time teachers decide relatively late in life that they want to teach in the vocational system.

It was decided to analyze teacher sources to find out which sources provided the youngest teachers (see Table 29). It was discovered that

Table 29. Age at Recruitment, N=1023

Source	Age
Business and Industry	36
Student in teacher education program	28
Student in nonteacher education program	28
Vocational teacher in high school system	34
General academic teacher or administrator in public school	35
Teacher in another vocational system	35
Military or civilian teach in military	34
College and junior college teacher	37
Practice, student and teachers of nursing	40
Housewife or unemployed	37
AVERAGE AGE	34

students in college programs were, on the average, the youngest group of teachers recruited. Even these teachers entered the system at an average age of 28. At the other extreme, teachers who had been practicing or teaching nursing entered the system at an average age of 40. The relatively high average recruitment age indicates that almost all

vocational teachers were engaged in other activities either after or during their schooling before entering the vocational system. This implication is substantiated by earlier survey data which reveals that on the average, Wisconsin vocational teachers have had ten years of experience directly related to their assignment.

Sex

There has been no strong trend in the recruitment of teachers by sex. Since 1950, male teachers have accounted for approximately three-quarters of teachers recruited each year. However, since 1963 that ratio has been narrowing slightly.

It was found that full-time female teachers are much more likely to have originally entered as part-time teachers than male teachers. Over 28 percent of full-time female teachers originally entered as part-time teachers, whereas just over 12 percent of full-time male teachers originally entered as part-time teachers. The Chi square test was significant at the .005 level.

In sum, female teachers are significantly older when recruited and more likely to be part-time teachers initially. It is quite possible that many female teachers are homemakers, who at a later age (relative to male teachers) are relieved of the responsibilities of home. These emancipated females are then free to earn money during their increased spare time.

Vocational teachers were also studied in reference to what they did berore entering the vocational system (see Table 30). The teacher-source ratio by sex indicates that male teachers are most prevalent

Table 30. Percent Male-Female, by Source, N=1041

Source	Male	Female
Business and Industry	88.56	11.44
Student teacher education program	79.14	20.86
Student nonteacher education program	73.53	26.47
Vocational teacher in high school	66.20	33.80
General academic teacher or administrator in public school	74.10	25.90
Teacher in vocational system	95.83	4.17
Military	91.43	8.57
College or junior college	56.00	44.00
Practice, student or teacher of nursing	1.75	98.25
Housewife-unemployed	3.45	96.55
TOTAL	72.81	27.19

(percentage-wise) in the following sources: business and industry, another vocational system, and the military. Female teachers are most prevalent in the college teaching, nursing, and housewife-unemployed categories. The percent distribution of sexes recruited from each source is shown above.

In examining the characteristics of those teachers who came from business and industry, we find that only 11 percent are female. Two-thirds of these female teachers came from the service industry. Thus, outside of the service industry, business and industry was the source of only 13 female teachers. (It was also found that business and industry recruited female teachers were not any more likely to be lured into the vocational system by a higher salary than were male teachers.)

City Size

Teacher entrance by city size has not varied greatly over the years. About 52 percent of teachers enter cities over 50,000. This ratio (52:48) was slightly wider in 1961 but has gradually narrowed since then.

There is no significant difference in the recruitment age of teachers by city size. Similarly, there is no important difference in the status of teachers (i.e., part-time versus full-time) at the time of entrance by city size.

It was discovered that certain sources were better for certain size cities (see Table 31). It appears that teachers recruited from business

Table 31. Percent of Teachers Recruited by Source and City Size, N=875

Source	Under 50,000	Over 50,000
Business and Industry	43%	57%
Student in teacher education program	53%	47%
Student in nonteacher education program	28%	72%
Vocational teacher in high school	60%	40%
General academic teacher or administrator in public school	43%	57%
Teacher in vocational system	33%	67%
Military	27%	73%
College or junior college	26%	74%
Practice, student or teacher of nursing	33%	67%
Housewife-unemployed	56%	44%
TOTAL	45%	55%

and industry and from the public school system (i.e., general academic teachers and administrators) are more likely to enter cities over 50,000 in population. In contrast, teachers recruited from the high school system (i.e., vocational teachers) are more likely to enter cities under 50,000 in population.[62]

Recent Trends

Vocational teacher sources were analyzed to see how they have

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[62]When dealing with questions on recruitment, population of city refers to the population of the city the teacher first entered.

changed over time. The results indicate that the four most commonly used sources (discussed earlier) have been consistently among the top four sources every year. However, within this grouping there has been some variability. In all periods, business and industry has been the best source.

Since 1961-1962, business and industry have been declining as a source of vocational teachers. On the other hand, students in non-teacher education programs, general academic teachers and administrators in public schools, and people studying, practicing or teaching nursing have been increasing (since 1961-1962) as sources of vocational teachers. It is interesting to note that the military which is considered a good potential source, was more effective as a source in the years before 1950 (See Table 32).

In sum, by 1967-1968, three different sources were being used in greater proportions than ever before (i.e., students in nonteacher education programs, general academic teachers and administrators in public schools, and nursing personnel). In addition, college teachers and teachers in other vocational systems showed signs of increasing importance as sources of vocational teachers. Other traditional sources, such as students in teacher education programs and high school vocational teachers showed signs of declining in importance. The military and housewife-unemployed category have remained relatively unimportant sources through the period studied.

There has been no increase in the use of new sources but certainly some sources which were relatively unimportant have been increasingly referred to. It is apparent that teacher sources have varied according

Table 32

Percent Recruited by Year and Source N=1040

SOURCE	BEF-1950	1950-55	1956-60	1961-62	1963-64	1965-66	1967-68	TOTAL
BUS-IND	37.57	38.81	31.53	46.15	30.17	29.39	27.83	32.88
TEACH-ED	14.36	17.91	18.02	12.09	18.10	16.79	14.15	15.77
REG-ED	3.31	0.00	0.00	0.00	2.59	4.20	6.13	3.17
HS-VOC	15.47	19.40	15.32	12.09	13.79	14.12	8.96	13.56
HS-ACAD	11.60	7.46	11.71	7.69	18.97	20.23	20.75	15.87
VOCSYSTM	0.55	2.99	2.70	4.40	1.72	1.91	3.30	2.31
MILITARY	12.15	1.49	1.80	3.30	72	0.76	1.42	3.37
COLTEACH	2.21	4.48	4.50	10.99	.45	3.82	6.60	4.81
NURSING	0.55	5.97	7.21	2.20	5.17	6.49	8.96	5.48
WIFE-UE	2.21	1.49	7.21	1.10	4.31	2.29	1.89	2.79
TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

to the year the teacher entered the system.

In analyzing teachers who came from business and industry, it was discovered that these teachers have consistently come from the manufacturing, service, and the wholesale-retail trade industry. There has been no apparent trend in recruiting teachers from other industries. In addition, it was found that these teachers had consistently worked at their former positions for about nine years before entering the vocational system. Vocational teachers recruited from business and industry have consistently been willing to accept approximately the same or less money upon entering the V.T.A.E. system.

Teacher Sources by Curriculum Area

Trade and Industrial Education

Overview. The three most commonly used sources of trade and industrial teachers are business and industry (55%), students in teacher-education prgrams (19%) and high school vocational teachers (12%) (see Tables 33 and 34). Business and industry is a better source of T & I teachers than any other kind of teacher.

Trade and industrial teachers represent 37 percent of all post-high school vocational teachers recruited from business and industry. Most of these teachers are from the manufacturing (51%), service (21%) and construction (15%) industries.

It was found that only 13.5 percent of present full-time T & I teachers originally entered the system as part-time teachers. Eight percent of T & I teachers are former vocational teachers who re-entered the system.

Table 33. Teacher Sources by Curriculum Area (Number)

Curriculum Area	Bus. & Ind.	Teacher Educ.	Regular Educ.	Hi Sch Voca.	Hi Sch Aca.	Voca. System	Military	College Teacher	Nursing	Wife UE	TOTAL
Trade & Industry	129	44	4	29	7	7	11	2	0	0	233
Business & Office	54	21	3	47	13	2	1	5	1	9	156
Home Economics	5	3	1	5	4	1	0	0	0	4	23
Agriculture	3	3	0	12	2	0	1	1	0	0	32
Distributive	14	8	4	3	1	0	1	1	0	0	32
Health	12	6	1	0	1	1	1	6	47	4	79
Technical	49	23	2	5	7	6	5	4	0	0	101
General Academic	37	26	13	5	91	0	2	20	0	6	200
Coord.-Supervisors	40	30	6	36	40	7	13	11	9	6	198
TOTALS	343	164	34	142	166	24	35	50	57	29	1044

Table 34. Teacher Sources by Curriculum Area (Percent Across)

Curriculum Area	Bus. & Ind.	Teacher Educ.	Regular Educ.	Hi Sch Voca.	Hi Sch Aca.	Voca. System	Mili- tary	College Teacher	Nur- sing	Wife UE	TOTAL
Trade and Industry	55.36	18.88	1.72	12.45	3.00	3.00	4.72	0.86	0.00	0.00	100.00
Business & Office	34.62	13.46	1.92	30.13	8.33	1.28	0.64	3.21	0.64	5.77	100.00
Home Economics	21.74	13.04	4.35	21.74	17.39	4.35	0.00	0.00	0.00	17.39	100.00
Agriculture	13.64	13.64	0.00	54.55	9.09	0.00	4.55	4.55	0.00	0.00	100.00
Distributive	43.75	25.00	12.50	9.38	3.13	0.00	3.13	3.13	0.00	0.00	100.00
Health	15.19	7.59	1.27	0.00	1.27	1.27	1.27	7.59	59.49	5.06	100.00
Technical	48.51	22.77	1.98	4.95	6.93	5.94	4.95	3.96	0.00	0.00	100.00
General Academic	18.50	13.00	6.50	2.50	45.50	0.00	1.00	10.00	0.00	3.00	100.00
Coord.-Supervisor	20.20	15.15	3.03	18.18	20.20	3.54	6.57	5.56	4.55	3.03	100.00
TOTALS	32.85	15.71	3.26	13.60	15.90	2.30	3..	4.79	5.46	2.78	100.00

Recent Trends. Business and industry, students in teacher education programs and high school vocational teachers have consistently been the first, second, and third most commonly used sources of T & I teachers. In contrast, students in regular education programs, and teachers in other vocational systems are being used in greater numbers than ever before.

Vocational Directors. Vocational directors indicated that they felt that business and industry and graduates of teacher education programs were the two most commonly used sources of T & I teachers. Thirty-nine percent of directors indicated that business and industry was the best source while another 39 percent indicated that graduates of teacher education programs was the best source. Directors were quite accurate in their picking of the two best sources, although business and industry was, in fact, the most commonly used source by far.

Business and Office Education

Overview. The three most common sources of business and office teachers are business and industry (35%), high school vocational teachers (30%), and students in teacher education programs (13%) (see Tables 33 and 34). Of the teachers that came from business and industry, most came from the manufacturing (48%), service (19%) and wholesale-retail trade (13%) sectors. It was also found that high school vocational teachers and former housewives were more apt to enter business and office teaching than any other curriculum area.

Lastly, it was discovered that almost one-quarter of B & O teachers originally entered as part-time teachers. This relatively high proportion of teachers who originally entered as part-time teachers may be due

to the high proportion of female teachers (almost 50%) in B & O education.

Recent Trends. Business and industry and high school vocational teachers have consistently been good sources of B & O teachers. Since 1963, business and industry and high school academic teachers have become increasingly important. In particular, students in regular education programs, teachers in another vocational system and the military are being used in greater numbers than ever before.

Vocational Directors. Over half of the vocational directors indicated that they felt that graduates from teacher education programs in college were the most commonly used source of B & O teachers. Twenty percent of directors thought that teachers of a vocational subject in a high school system would be the best source. Directors were partially correct in their assessments. These two categories did account for over 40 percent of B & O teachers. However, only three directors felt that business and industry was the best source.

Distributive Education

Overview. The three most commonly used sources of distributive education teachers are business and industry, students in teacher education programs and students in regular education programs. Students provided approximately 40 percent of distributive teachers while business and industry accounted for another 40 percent (see Tables 33 and 34).

Over 90 percent of distributive teachers entered as full-time teachers while only 7 percent were former vocational teachers who re-entered the system.

Vocational Directors. Vocational directors felt students from tea-

cher education programs (57%) and business and industry (38%) were the two most commonly used sources of distributive education teachers. Directors were correct in their assessment of the two best sources although they underestimated the importance of business and industry.

Health and Welfare Education

Overview. The four most commonly used sources of H & W teachers are people studying, practicing, or teaching nursing (59%), business and industry (15%), college teachers (8%), and students in teacher education programs (8%). Other sources are minimal providers of H&W teachers (see Tables 33 and 34).

H & W teachers are equally likely to enter the system as part-time teachers as the average teacher, but are less likely to have been former vocational teachers. Most H & W teachers recruited from business and industry are taken from the service industry.

Recent Trends. Over the last five years people practicing, studying and teaching nursing have steadily increased as a source of H & W teachers. In the same period, business and industry declined slightly while college teachers and students in teacher education programs remained consistently good sources supplying approximately 10 percent of H & W teachers a year.

Vocational Directors. Approximately half of the vocational directors felt that graduates from college programs not related to teacher preparation were the most commonly used source of H & W teachers. One quarter of the directors felt business and industry was the best. Directors underestimated the importance of people who were practicing, studying, or already teaching nursing.

Technical Teachers

The two most commonly used sources of technical education teachers are business and industry and students in teacher education programs. Approximately half of all technical teachers are recruited from business and industry. Students in teacher education programs provide about one-fifth of all technical teachers. The remaining teachers are evenly divided among five other sources each supplying about 5 percent of all technical teachers recruited (see Tables 33 and 34).

Of the technical teachers recruited from business and industry, most came from the manufacturing (48%), service (28%), and construction (12%) industries. Only 14 percent of technical education teachers originally entered as part-time teachers, while only 2 percent were former teachers who went back to teaching. Both figures are below the average of all vocational teachers.

Recent Trends. Students in teacher education programs in college, general academic teachers and administrators in the public school system and teachers in another vocational system have consistently been pretty good sources of technical teachers. Business and industry, while still the most important source has been declining in importance since 1960. High school vocational teachers and college teachers are new sources which are being used in greater proportions than before.

Vocational Directors. Forty percent of vocational directors felt the most commonly used source of vocational teachers was business and industry. One quarter of directors felt graduates from teacher education programs would be the best source. Directors were very accurate in their assessment of the importance of the two sources.

General Academic Teachers

Overview. The four most commonly used sources of general academic teachers are high school academic teachers and administrators (46%), business and industry (19%), students in teacher education programs (13%), and college teachers (10%) (see Tables 33 and 34). General academic education is the biggest demander (within the vocational system) of potential teachers from students in regular education programs, high school academic teachers and administrators, and college teaching.

Twenty-one percent of general academic teachers originally entered the system as part-time teachers but only 2 percent of all entering teachers were former vocational teachers who re-entered the system.

Most of the general academic teachers from business and industry came from the manufacturing (36%), service (21%), wholesale-retail trade (18%), and government (12%) sectors.

Recent Trends. High school academic teachers and administrators have consistently been a good source of general academic teachers. Likewise, students, in teacher education programs and college teachers have been good sources of general academic teachers. Since 1963, students in regular education programs have been increasing in importance as a source of general academic teachers. On the other hand, during the period, business and industry has been declining slightly in importance as a source.

Vocational Directors. Well over half of all directors felt students in teacher education programs in college would be the best source of general academic teachers. The remaining directors felt teachers of vocational subjects in high school and teachers of an academic subject in

high school would be the best source. Directors were fairly accurate in their assignment of importance to these two sources, however they over-estimated the importance of recent graduates from teacher education programs.

Coordinator-Supervisors

Coordinator-supervisors have been recruited from all ten sources listed in this study. The most obvious explanation is that these are coordinator-supervisor specialists for all the major curriculum areas, thereby necessitating the use of all sources. The four most commonly used sources are business and industry (20%), teachers and administrators in the public school system (mostly high school), high school vocational teachers and students in teacher education programs (see Tables 33 and 34).

It was found that 15 percent of coordinator-supervisors entered as part-time teachers. More importantly, approximately 10 percent of coordinator-supervisors are former vocational teachers who left the system and later re-entered.

Most coordinator-supervisors from business and industry are from the manufacturing (28%), wholesale-retail trade (23%), service (18%), and governmental (15%) sectors.

CHAPTER VI

THE MOBILITY OF VOCATIONAL TEACHERS

Overview

Entrance Mobility

There has been relatively little work done on vocational teacher mobility. In contrast, much has been written on the establishment of a nation-wide recruitment network for teachers.[63] It would be wise to examine present teacher mobility in order to get some indication of the feasibility of such a system.

It was found that 83 percent of Wisconsin vocational teachers resided in Wisconsin just before entering the V.T.A.E. system. In some curriculum areas up to 90 percent of teachers resided in Wisconsin. It was discovered that of the 188 (17%) teachers who did not come from Wisconsin, 122 or 65 percent came from states bordering Wisconsin. In sum, out of 1074 teachers only 66 (6%) came from states outside Wisconsin and bordering states. Only 46 teachers camefrom states outside the midwest.

Teachers recruited in Wisconsin were asked how far (i.e., distance) their former position was from their initial position in the V.T.A.E. system. Again, there was a propensity for low mobility. Over 60 percent of teachers recruited in Wisconsin were recruited from within a 50 mile radius. Over three-quarters of the teachers were recruited from within

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[63]George Arnstein, Design for an Academic Matching Service (Washington, D. C.: National Education Association, 1967).

a 100 mile radius. Approximately 22 percent of the teachers came from over 100 miles away.

The results show that the vocational teacher in Wisconsin is rarely from out of state or from over 100 miles away in-state. In total, only one out of three teachers are from out of state or more than 100 miles away in-state.

Vocational teacher mobility contrasts greatly with that of college teacher mobility as studied by David G. Brown in 1965. Brown, in a study of over 7,000 new college teachers, found that the college teacher labor market was nation-wide. His study revealed that the median move for a new college teacher was approximately 500 miles, with over one quarter moving over 1000 miles. In summary, he concluded, "The aggregate data support the view that academic labor markets are not bounded by region."[64]

The data on vocational teacher mobility casts great doubt on the ability of the State Board to operationalize a nation-wide labor market. Vocational teachers are highly immobile in comparison to college teachers. Perhaps it would be wiser for the Board to concentrate its efforts in the midwest region or to states that border Wisconsin. There are some differences in mobility among curriculum areas and this will be discussed later.

Inter-School Mobility

A number of vocational officials in Wisconsin believe there is a tendency for teachers to change schools within the system. The data shows that vocational teachers are not highly mobile within the system.

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[64]David G. Brown, Academic Labor Markets (Washington, D.C.: U.S. Department of Labor, OMAT, September 1965), p. 133.

Approximately 85 percent of vocational teachers have taught in only one school. Only 3 percent of teachers have taught in more than two schools.

Sixty percent of teachers who changed schools, changed within the last three years. This fact is not important, however, since 46 percent of all vocational teachers entered the system during this period. Since teachers who move are more likely to move in their first three years, it is expected that there would be great mobility (in numbers) in this period (1965-1968).

It was believed that certain vocational teachers would be more apt to have taught in more than one school It was found that teachers who had been former vocational teachers were not significantly more apt to have taught in more than one school. On the other hand, teachers who originally entered the system as part-time teachers were significantly more likely to have taught in more than one school. Twenty-one percent of these part-time teachers had taught in more than one school compared to 14 percent of full-time teachers. The Chi-Square results were significant at the .05 level (N=1027).

Sex

Teachers of both sexes were equally likely to have come from in-state or out-of-state. However, teachers from states not bordering on Wisconsin were more likely to be female (55%, sig. at .01). The results may appear to be somewhat surprising in that the older teacher and the female teacher were the more mobile. It must be remembered however, that this "more mobile" group of teachers is a substrata of a generally older, less mobile teaching population. Considered in this light, it is expected

that there will be variations within this population. Sex was not a significant variable in determining how far a teacher came from within Wisconsin.

Inter-School Mobility

There is a slightly greater tendency for those teachers who have taught in more than one school to be male. The difference (6%) though significant (.05) is not large.

City Size

There is a slight tendency (sig. at .005) for those teachers who come from out-of-state to enter cities between 25,000 and 200,000 in population. More importantly, there is a tendency for larger cities to recruit teachers from within a 50 mile radius. Eighty-five percent of in-state teachers recruited by Milwaukee are from within a 50 mile radius. In general, cities over 50,000 in populatio have a greater tendency to recruit teachers from within a 100 mile radius (see Table 35).

Table 35. Teacher Mobility by City Size, N=588

	Radius			
	50 Mile	100 mile	150 mile	Over 150
Under 25,000	38	14	9	15
25-50,000	101	30	18	25
50-200,000	95	27	9	22
Over 200,000	157	9	3	16
	391	80	39	78

X^2 with 9 Df = 49.5 ($p < .005$)

Inter-School Mobility

It was found that a greater proportion of teachers in smaller cities (i.e. under 50,000) have taught in more than one school.

Recent Trends

There has been a significant (.05) increase in the number of teachers coming from out-of-state since 1961. Of those teachers in our survey who entered before 1961, only 13 percent came from out-of-state. Since 1961, approximately 20 percent of vocational teachers have come from out-of-state. During 1960-1962 entering vocational teacher mobility increased from 12 percent (out-of-state_ to 24 percent. There was a decline to 13 percent in 1963-1964, but since then out-of-state entrance has been increasing. in 1967-1968, 22 percent of entering vocational teachers came from out-of-state.

There has been no significant change in the number of teachers coming from states that do not border Wisconsin. Similarly, no tendency was discovered for teachers to come from greater distances from within Wisconsin. In sum, vocational teacher mobility has increased very slightly.

It appears that this slight increase in mobility is due to the National Recruitment Campaign of the State Board rather than a basic change in the mobility patterns of the average vocational teachers. The results indicate that the National Recruitment Campaign has not been too successful. The increase in number of teachers from out-of-state has been moderate. There has been no increase in the number of teachers coming from states that do not border on Wisconsin. The National Recruitment Campaign will be discussed in more detail in the final chapter of this study.

The National Recruitment Campaign, if it has been successful at all, has only increased the recruitment of teachers from states bordering

Wisconsin. It would appear that recruitment campaigns would be most successful if they concentrated on the midwest region only.

Teacher Mobility by Curriculum Area

Trade and Industrial Education

Entrance Mobility. Trade and industrial teachers exhibit mobility which is similar to the average mobility of all vocational teachers. Trade and industrial teachers are as likely to be from out-of-state (17%) and to be from states that border on Wisconsin (67%). However, T & I teachers who did come from out-of-state are much more likely to come from the midwest region (92%) than the average teacher (75%).

It was found that T & I teachers from Wisconsin are slightly less likely to come from within a 100 mile radius. In sum, however, T & I teachers exhibit mobility equal to or somewhat below the average. Only three T & I teachers come from areas outside the midwest. The national recruitment campaign for T & I teachers would appear to have had little success.

Inter-Schoo Mobility. Approximately 83 percent of T & I teachers have taught in only one school. T & I teacher exhibit average inter-school mobility.

Recent Trends. Since 1964, the proportion of teachers coming from out-of-state has been increasing. In 1967-1968, the number of entering out-of-state T & I teachers reached a peak of 30 percent. The proportion of in-state recruited teachers who come from a 100 mile radius has consistently been around 80 percent. Over-all, T & I teacher mobility approaches the average, but there are signs of increasing out-of-state

recruitment even if limited mostly to the midwest region.

Business and Office Education

Entrance Mobility. Business and office teachers are about as likely to be from out-of-state as are all vocational teachers. However, out-of-state teachers are less likely to come from states that border Wisconsin and in-state teachers are slightly less likely to come from within a 100 mile radius. In sum, both in-state and out-of-state recruited teachers exhibit mobility slightly greater than the average vocational teacher.

Inter-School Mobility. Business and office teachers exhibit average inter-school mobility.

Recent Trends. Since 1963, an increasing proportion of B & O teachers are coming from out-of-state. In fact, since 1963 the proportion of teachers from out-of-state has been doubling from 6 percent (1963-64) to 12 percent (1965-66) to 28 percent (1967-68). The proportion of in-state recruited teachers who come from a 100 mile radius has been consistently around 80 percent.

Distributive Education

Entrance Mobility. Slightly less than half of all distributive teachers are from out-of-state. This is substantially above the average for all teachers. However, out-of-state distributive teacher are more likely to come from states that border Wisconsin. Eighty percent of in-state recruited distributive teachers come from within a 100 mile radius. In sum, although distributive education teachers are more likely to cross state lines, they are not more likely to cross regional boundaries.

Inter-School Mobility. Distributive teachers exhibit average inter-school mobility.

Health and Welfare Education

Entrance Mobility. Health and welfare teachers are less likely to be from out-of-state than the average vocational teacher. H & W teachers who come from within Wisconsin are more likely to come from within a 50 mile radius or a 100 mile radius. Eighty percent of in-state H & W teachers come from within a 50 mile radius while 97 percent come from within a 100 mile radius. In sum, H & W teachers' mobility is substantially below the mobility of other vocational teachers.

Inter-School Mobility. Approximately 98 percent of Health and Welfare teachers have taught in only one school. H & W teacher inter-school mobility is far below the average.

Recent Trends. Out-of-state mobility has remained stable at approximately 10 percent over the last five years. In-state mobility has decreased in this period to a point where in 1967-1968, 100 percent of entering in-state teachers came from within a 100 mile radius.

Technical Education

Entrance Mobility. Almost one quarter of technical education teachers come from out-of-state. However, three quarters of out-of-state teachers come from the midwest, almost all from states that border Wisconsin. About three quarters of in-state recruited teachers come from within a 100 mile radius. In sum, technical teacher mobility is about average.

Inter-School Mobility. Eighty-seven percent of technical education teachers have taught in only one school. This proportion is about average.

Recent Trends. Approximately 90 percent of technical teachers who came from out-of-state have entered since 1963. During that period, approximately 60 percent of all present technical teachers entered the system. Similarly, the proportion of in-state recruited teachers coming from over 100 miles away has also been increasing. In sum, it appears that the mobility of technical education teachers has been increasing steadily since the early 1960's.

General Academic Education

Entrance Mobility. General academic teachers appear to be slightly less mobile than other vocational teachers. Eighty-seven percent of them come from in-state, 70 percent of these teachers coming from within a 50 mile radius.

Inter-School Mobility. Ninety-three percent of general academic teachers have taught in only one school in the V.T.A.E. system. The lack of vocational inter-school mobility among general academic teachers may be due to the fact that many of them have previously changed school systems (50% from public schools). Perhaps after changing schools from one system to another these teachers are less willing to make another move.

Recent Trends. There has been no significant trend inthe recruitment of out-of-state teachers in recent years. Likewise, there has been no significant increase in the proportion of in-state teachers coming from over 100 miles away. In sum, there are no signs that general academic teacher mobility is increasing.

Coordinator-Supervisors

Entrance Mobility. Future coordinator-supervisors exhibit average

mobility at the time of entrance into the system.

Inter-School Mobility. Almost one quarter of coordinator-supervisors have changed schools. Coordinator-supervisors are more likely to have changed schools than any other curriculum area.

CHAPTER VII

THE RECRUITMENT OF VOCATIONAL TEACHERS

Overview

Vocational teachers were asked how they first learned about their initial (entry) position in the Wisconsin V.T.A.E. system. The idea was to ascertain which recruitment techniques had been most effective (see Table 36).

The teacher survey indicated that friends, rel tives and professional acquaintances (including former instructors) was the single most important recruitment media. The second most commonly used technique was being contacted first by the school system through the mail, phone, or in person. The importance of this technique indicates a high degree of aggressiveness on the part of the V.T.A.E. system. Direct application by the teacher and the college placement office were the other two major recruitment techniques most often successfully used. These results correspond almost exactly with David G. Brown's study on Academic Labor Markets.[65]

It was surprising to find that commercial teacher placement agencies only accounted for nine teachers in the system. The Public Employment Service and State Board of V.T.A.E. accounted for over 50. Labor unions and radio and TV were poor media for recruitment, as expected.

The results of David G. Brown's study on the recruitment of college

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[65] Brown, op. cit., p. 232.

Table 36. Recruitment Techniques, N=1056

	Number	Percent
Friends and relatives, teachers	309	29.26
Newspaper ads: Position available	52	4.92
Professional magazine	20	1.89
Professional Association	27	2.56
Labor Union	5	.47
College Placement Office	152	14.39
Commercial Teacher Placement Agency	9	.85
Radio and TV	0	.00
Public Employment Service (State Board)	52	4.92
Direct Application	155	14.68
Contacted first by School System	275	26.04
TOTAL	1056	100.00

teachers indicates a surprising similarity in recruitment techniques used by college professors and vocational teachers. Brown's data is included below in comparable form.[66]

Table 37. Academic Labor Market

	Percent found job through	
	Brown Study	Vocational Study
Informal method (i.e. Frd.-Rel.)	32%	29%
Did Nothing (i.e. Contacted by Sch)	26%	26%
Blind letters	19%	15%
Newspaper Ad	2%	5%
Professional Association	3%	2.5%
Private Employment Agency	3%	1%
College Placement Office and Graduate Department	12%	14%

In sum, Brown found that one-quarter of professors did nothing to be recruited while the majority relied on informal recruitment techniques. The same conclusions hold for vocational teachers. In addition, in both cases, direct application by the teacher was the leading formal method by which jobs were found. Thus, the mechanisms of the vocational

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[66] Ibid., p. 232.

teacher labor market resemble that of the college teacher although the market itself is not as broad in scope (i.e. geographic range).

Teachers were asked to indicate all the methods they used in searching for their positions. An Index of Effectiveness was constructed which divides the number of teachers who first learned of their position through a given technique by the total number of teachers who used that technique.[67] This index of effectiveness facilitates comparisons among the various recruitment techniques (see Table 38).

Table 38. Index of Effectiveness

Technique	First Learned	Total Using	Index
Contacted first by school system	275	344	.80
Friends and relatives, teachers	309	413	.75
Newspaper ad: Position available	52	78	.67
College Placement Office	152	261	.58
Labor Union	5	9	.55
Public Service (State Board)	52	102	.50
Direct Application	155	324	.48
Professional Magazine	20	46	.43
Professional Association	27	66	.40
Commercial Teacher Agency	9	24	.37
Radio and TV	0	1	.00

The results confirm the fact that the two most important recruitment techniques are friends and relatives and being contacted first by the school system. The high effectiveness of the newspaper ad coupled with the relatively low number of teachers recruited indicates that either teachers are not aware of its effectiveness or the vocational system is not advertising on a large enough scale. Professional magazines, professional associations, commercial agencies and radio and TV are weak recruiting media both in number and effectiveness.

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[67]Harold Sheppard and A. H. Belitsky, The Job Hunt (Baltimore: Johns Hopkins Press, 1963), Chapter 5.

Over-all, there appears to be some consistency in the ratings of recruitment techniques as both good in terms of numbers recruited and good in terms of effectiveness. There appears to be a positive relation (excluding Direct Application and Newspaper Ad) between the number of people using a technique and its effectiveness. The implication is that teachers are aware of which are the most effective techniques and concentrate their efforts along these lines. This implication is supported by the fact that the average vocational teacher uses only 1.5 recruitment techniques in order to find a position. The number of techniques used does not vary importantly by the curriculum area.

The results indicate that the teacher labor market has been a seller's market. Vocational teachers have a wide choice of recruitment techniques, many of which are quite effective. Most teachers seem to be able to secure a job using one or at most two recruitment techniques. The two best recruitment techniques used in terms of numbers recruited and effectiveness were friends and relatives and contacted first by the school system. Friends and relatives represent a highly informal recruitment medium, while school initiation of contact requires no effort at all on the part of the teacher.

Lastly, an attempt was made to find out which were the two best recruitment techniques (in numbers) for each source. The results are shown in Table 39.

The use of friends and relatives and direct contact by the school system are the prevalent recruitment techniques for almost all sources. The college placement office ranked highly for recruitment of students in teacher education programs. Surprisingly, the college placement

Table 39. Recruitment Techniques, Rank and Percent Recruited/Source, N=1025

	Frd-Rel	College Plcmnt.	Direct Appli.	Contact by School
Business and Industry	1(30%)			
Student Teccher Education	2(22%)	1(46%)		
Student Nonteacher Educa.	1(47%)		2(21%)	
Vocational teacher in H.S.	2(30%)			1(31%)
General academic teacher-administrator (pub. sch.)	2(29%)			1(30%)
Teacher in vocational sys.	2(21%)			1(25%)
Military				1(24%)
College teachers	1(36%)		2(26%)	
Nursing-study, practice	1(46%)			2(26%)
Housewife-unemployed	2(31%)			1(48%)
TOTAL	1			2

office also rated highly for the military. Direct applications were an important recruitment technique for students in nonteacher education programs and for college teachers.

Vocational Directors

Vocational directors were asked to choose the single most commonly used source and single most commonly used recruitment technique for each curriculum area. Over-all, directors felt that graduates (i.e. students) from teacher education programs in college were the most commonly used source. They rated business and industry as the second best source. Directors were incorrect in their relative assessment of these two sources although both sources are important. Business and industry was far and away the best source of teachers while students in teacher education programs supplied only half as many teachers.

Vocational directors felt that the college placement office was the most commonly used over-all recruitment medium of vocational teachers.[68]

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[68]Contact initiation by the school system was not listed on the director questionnaire as a choice.

The directors rarely picked friends and relatives as the most important recruitment medium. In fact, the category "friends and relatives" was only picked as the best over-all recruitment medium by one in ten directors.[69]

Age and Age Recruited

There was found to be almost no difference in the average age of teachers using (versus successfully using) a given recruitment technique. In both cases, teachers using the college placement office were youngest.

Sex

Over-all, the successful use of recruitment techniques does not appear to vary greatly by sex. It was found, however, that friends and relatives was used as a successful technique more often (%) by female teachers (36%) than male teachers (27%). In contrast, the college placement office and the public service were better techniques for male teachers (23%) than female teachers (7%).

In general, there was no significant difference in the use (distinguished from successful use) of recruitment techniques by sex. Only two techniques were used significantly more by one sex than the other Male teachers have a greater tendency to make use of the college placement office (12% differential, sig. at .005) and the public service (8% differential, sig. at .005). The relatively greater use of these two sources by male teachers account for their successfulness in

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[69]The best over-all technique or source refers to the techniques or source picked as best for the most curriculum areas. For example, the College placement office was picked as the best recruitment technique by most directors for seven of the eight curriculum areas.

recruiting relatively more male teachers. Since friends and relatives are not referred to significantly more by female teachers, there must be another reasons for its success in recruiting female teachers.

The effectiveness of recruitment techniques did vary somewhat by sex (see Table 40). Friends and relatives, initial contact by the school system and the newspaper ad were the three most effective recruitment techniques for each sex, although not necessarily in that order. For female teachers, friends and relatives was the most effective recruitment technique while for male teachers, initial contact by the school system was most effective.

Table 40. Effectiveness Index by Sex

	Male			Female		
Technique	First Learn	Total	Index	First Learn	Total	Index
Friend-Relative	202	283	.71	107	129	.83
Newspaper ad	39	59	.66	13	19	.68
Professional mag.	12	32	.38	8	14	.57
Professional ass.	19	50	.38	8	16	.50
Labor Union	5	9	.56	0	0	.00
College Placement	131	223	.59	21	38	.55
Commercial Agency	6	20	.30	3	4	.75
Radio-TV	0	1	.00	0	0	.00
Public Service	48	91	.53	4	11	.36
Direct Application	105	229	.46	50	93	.54
School System	193	239	.81	82	105	.78

The greatest difference in effectiveness for the two sexes was found in the use of the professional magazine and the public service. The public service was much more effective for the male teacher while the professional magazine was more effective for the female teacher.

Finally, there was no important difference found in the number of recruitment techniques used by each sex.

City Size

There is a definite trend in the successful use of the four major recruitment techniques by city size (see Table 41). In general, the larger the city the greater the percent of teachers recruited through friends and relatives and by direct application by the teacher. In contrast, the smaller the city size, the greater the percent of teachers recruited by the college placement office and directly by the school system. Not

Table 41. Percent of Teachers Recruited by City Size and Technique, N=891

City Size	Friend-Relative	Direct App.	College Plc.	Sch System
Under 25,000	18.40	9.65	21.05	40.35
25-50,000	24.47	11.35	18.79	28.01
50-200,000	30.13	13.10	7.86	29.69
Over 200,000	38.72	22.56	9.02	13.16
	29.26	14.68	14.39	26.04

surprisingly, it was found that there was a significantly greater tendency (.01) to use friends and relatives and direct applications as city size increases. Also, as expected, there was a significantly greater tendency (.01) to make use of the college placement office and initial contact by the school system as city size decreases.

In view of these results, one might hypothesize that the teacher labor market is tighter in smaller cities since these cities resort to more formal and more aggressive recruitment techniques. On the other hand, larger cities utilize recruitment media which require more aggressiveness on the part of the teacher than on the system.

The effectiveness of recruitment techniques also varies by city size (see Table 42). In general, friends and relatives, initial contact by the school system and the newspaper ad are the three most effective

Table 42. Effectiveness Index by City Size

Technique	Under 25,000	25,000-50,000	50,000-200,000	Over 200,000
Friend-Relative	.60	.74	.78	.83
Newspaper ad	.57	.80	.64	.69
Professional Mag	.25	.64	.20	.44
Professional Ass.	.43	.32	.53	.33
Labor Union*	.00	.00	.00	.00
College Placement	.71	.60	.40	.55
Commercial Agency*	.00	.00	.00	.00
Radio-TV*	.00	.00	.00	.00
Public Service	.36	.59	.48	.60
Direct Application	.46	.42	.45	.56
School System	.77	.79	.85	.71

*Certain techniques were used so infrequently that effectiveness indexes were not calculated for them.

techniques for each city size. The effectiveness of other major techniquest, however, was not as consistent. The college placement office was found to be most effective as atechnique in cities under 25,000 in population. In contrast, direct application by the teacher was found to be most effective in cities over 200,000 in population. The professional magazine was most effective in cities between 25,000-50,000 in population, while the professional association was found to be most effective as a technique in cities between 50,000-200,000. Of all the techniques, only the use of friends and relatives exhibited a consistent tendency to increase in effectiveness as city size increases.

Finally, there was no important difference found in the number of recruitment methods used by teachers in the four city size categories.

Recent Trends

The data on recruitment reveals that vocational teachers have consistently made use of friends and relatives and initial contact by the school system as the two top recruitment media. In a similar manner,

direct application by the teacher and the college placement office have consistently been the third or fourth best recruitment media.

Initially, contact by the school system was the best recruitment technique for those teachers in our study, reaching a peak of 41 percent of teachers recruited in the 1950-1955 period. Since that time, initial contact by the school system has been declining somewhat. In 1967-1968, it reached a new low of only 19 percent of teachers recruited through this method. In contrast, the use of friends and relatives has been generally increasing through the years. Around 1960, friends and relatives replaced initial contact by the school system as the best recruitment medium for vocational teachers.

It appears that the college placement office has been declining slightly as a successful recruitment medium. Direct application by the teacher has been a consistently successful recruitment medium through the years. In sum, all four recruitment techniques have been consistently successful media and do not appear likely to be replaced by others in the future.

It should be noted that since 1961, the success of newspaper ads, professional magazines and the public service, as recruitment techniques has been increasing. In fact, up until 1965, not one teacher was recruited through the use of the professional magazine. In 1967-1968, over 6 percent of teachers were recruited through this method. The use of labor unions and commercial agencies, though always small, has declined in recent years. Since 1961, two teachers have been recruited through these methods (see Table 43).

Over-all, recruitment techniques do vary according to the year

Table 43

Recruitment by Year N=1056

TECHNIQUE	BEF-1950	1950-55	1956-60	1961-62	1963-64	1965-66	1967-68	TOTAL
FRD-REL	19.10	15.71	28.18	35.87	31.93	34.21	32.13	29.26
NEWS AD	1.69	7.14	1.82	1.09	4.20	7.89	6.79	4.92
PROF. MAG	0.00	0.00	0.00	0.00	0.00	2.26	6.33	1.89
PROASSOC	3.37	4.29	2.73	1.09	5.04	1.13	2.26	2.56
L. UNION	0.56	2.86	1.82	0.00	0.00	0.00	0.00	0.47
COLL. PLC	21.35	12.86	16.36	16.30	14.29	10.53	12.22	14.39
COMM. AG.	2.25	1.43	1.82	1.09	0.84	0.00	0.00	0.85
RADIO TV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PUB-SERV	7.87	2.86	4.55	3.26	4.20	4.14	5.88	5.02
DIR APP	14.04	11.43	14.55	17.39	8.40	16.92	15.38	14.58
SCH. SYS	29.78	41.43	28.18	23.91	31.09	22.93	19.00	26.04
TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

entered (see Table 43). However, there appears to be more consistency in the use of recruitment techniques through the years than in the use of sources. The use of the professional magazine constitutes a technique which has not hertofore been used. (The professional magazine was used in the National Recruitment Campaign of the State Board in 1967.)

An analysis of the effectiveness of various techniques since 1960 indicates that there has not been much change. Friends and relatives and initial contact by the school system have alternated as the most effective recruitment technique since 1960. The newspaper ad and the college placement office have consistently been the third and fourth most effective techniques.

Over-all, there has been a tendency for the newspaper ad and professional magazine to increase in effectiveness. Other recruitment techniques have varied, but maintain their relative effectiveness quite consistently. Further analysis of recruitment data reveals that an increasing proportion of teachers have been using and successfully using newspaper ads and professional magazines as recruitment techniques. The implication is that teachers are aware of the growing effectiveness of these recruitment techniques.

Finally, it was found that there was absolutely no tendency for newly recruited teachers to use fewer recruitment techniques than teachers in earlier periods.

Recruitment by Curriculum Area

Trade and Industrial Education

Overview. The average age of trade and industrial teachers at the

time of recruitment was 34.

Not surprisingly, initial contact by the school system (32%), friends and relatives (25%), the college placement office (15%), and direct application by the teacher (11%) are the four most commonly used recruitment media for trade and industrial teachers (see Tables 44 and 45). Initial contact by the school system was the single best recruitment technique for T & I teachers. Approximately one third of the T & I teachers are recruited through this medium.

It is not surprising that initial contact by the school system is the most commonly used recruitment technique for T & I teachers, since T & I teachers have been in the system longer (on the average) than all other vocational teachers. It was revealed earlier that initial contact by the school system was the best over-all recruitment technique until 1960. Only T & I teachers successfully used labor unions as a recruitment media.

An effectiveness index was constructed for T & I teachers (see Table 46). The results indicate that initial contact by the school system has been a highly effective recruitment technique. Similarly, friends and relatives and the college placement office have been effective techniques. Direct application by the school teacher, although a good technique (in numbers) is not an effective technique. In fact, direct application by the teacher is one of the least effective recruitment techniques for T & I teachers.

The newspaper ad and professional association appear to be very effective techniques for T & I teachers. The newspaper ad is actually the most effective recruitment media for T & I teachers. It would

Table 44. Recruitment by Curriculum Area (Number)

Curriculum Area	Friend-Rela.	News. Ads	Prof. Maga.	Prof. Assoc.	Labor Union	Coll. Place.	Comm. Agency	Public Service	Direct Applic.	School System	Total
Trade and Industry	57	11	3	9	5	33	0	11	24	73	226
Business and Office	44	10	3	2	0	20	0	9	29	39	156
Home Economics	8	1	1	0	0	4	0	0	5	6	25
Agriculture	5	0	0	1	0	5	0	0	1	7	19
Distributive	18	1	1	2	0	3	0	1	2	3	31
Health and Welfare	41	4	4	4	0	0	1	0	10	18	32
Technical	25	9	4	1	0	14	2	8	13	27	103
General Academic	69	11	0	3	0	29	2	8	47	38	207
Coord.-Supervisor	43	5	4	5	0	45	4	16	24	63	209
TOTALS	313	52	20	27	5	153	9	53	155	274	1058

Table 45. Recruitment by Curriculum Area (Percent)

Curriculum Area	Friend-Rela.	News. Ads	Prof. Maga.	Prof. Assoc.	Labor Union	Coll. Place.	Comm. Agency	Public Service	Direct Applic.	School System	Total
Trade and Industry	25.22	4.87	1.33	3.98	2.21	14.60	0.00	4.87	10.62	32.30	100.00
Business and Office	28.21	6.41	1.92	1.28	0.00	12.82	0.00	5.77	18.59	25.00	100.00
Home Economics	32.00	4.00	4.00	0.00	0.00	16.00	0.00	0.00	20.00	24.00	100.00
Agriculture	26.32	0.00	0.00	5.26	0.00	26.32	0.00	0.00	5.26	36.84	100.00
Distributive	58.06	3.23	3.23	6.45	0.00	9.68	0.00	3.23	6.45	9.68	100.00
Health	50.00	4.88	4.88	4.88	0.00	0.00	1.22	0.00	12.20	21.95	100.00
Technical	24.27	8.74	3.88	0.97	0.00	13.59	1.94	7.77	12.62	26.21	100.00
General Academic	33.33	5.31	0.00	1.45	0.00	14.01	0.97	3.86	22.71	18.36	100.00
Coord.-Supervisor	20.57	2.39	1.91	2.39	0.00	21.53	1.91	7.66	11.48	30.14	100.00
TOTALS	29.30	4.91	1.89	2.55	0.47	14.46	0.85	5.01	14.65	25.90	100.00

Table 46. Effectiveness Index

Technique	First Learned	Total Using	Index
Newspaper Ad	11	13	.84
School System	73	95	.77
Friend-Relative	57	86	.66
Labor Union	5	8	.63
College Placement	33	55	.60
Public Service	11	22	.50
Professional Assoc.	9	18	.50
Direct Application	24	66	.36
Professional Magazine	3	11	.27

appear that more use should be made of the newspaper ad in the future.

Recent Trends. Friends and relatives and initial contact by the school system have consistently been the two most commonly used recruitment techniques. The college placement office has consistently been the second or third best recruitment technique for T & I teachers. In recent years, there appears to be an increase in the successful use of friends and relatives and decline in the use of initial contact by the school system and the college placement office. Since 1963, the professional magazine and public service have been used successfully in greater numbers than ever before. Labor unions, commercial agencies, and radio and TV have consistently been poor recruitment techniques.

Vocational Directors. Vocational directors picked the college placement office (33%), newspaper ads (24$), and the public employment service as the most commonly used recruitment media for T & I teachers. In fact, the college placement office is the most important formal recruitment media for T & I teachers. The choice of newspaper ads and the public service as the best recruitment media may reflect their increasing use in recent years. Directors did not appear to realize the importance of friends, relatives, and professional acquaintances and direct application by the teacher.

Business and Office Education

Overview. The average age of B & O teachers at the time of recruitment was 34. The four most commonly used recruitment media for business and office teachers are friends and relatives (28%), initial contact by the school system (25%), direct application by the teacher (19%), and the college placement office (13%) (see Tables 44 and 45).

Initial contact by the school system, friends and relatives, and the newspaper ad appear to be most effective recruitment technique (see Table 47).

Table 47. Effectiveness Index

Technique	First Learned	Total Using	Index
School System	39	47	.83
Friends and Relatives	44	57	.77
Newspaper Ads	10	13	.77
Professional Magazine	3	4	.75
Direct Application	29	48	.60
College Placement	20	34	.59
Public Service	9	17	.53
Professional Assoc.	2	5	.40

Recent Trends. Friends and relatives, initial contact by the school system, direct application by the teacher, and the college placement office have consistently been good recruitment media. Since 1963, the successful use of friends and relatives has been decreasing slightly. In contrast, newspaper ads and professional magazines are being used successfully more than ever before. Since 1965, over 10 percent of B & O teachers have been recruited through newspaper ads.

Vocational Directors. Almost half of the directors felt that the college placement office was the most commonly used recruitment media. Only five directors thought friends and relatives or direct application

by the teacher was the best media. Directors were thus off in their relative assessment of the best recruitment media, although the college placement office is fairly important.

Distributive Education

Overview. The average age of distributive teachers at the time of recruitment was 32. Almost 60 percent of distributive teachers are recruited through contact by the school system. Among formal techniques, the college placement office is most often successfully used, recruiting 10 percent of distributive teachers (see Tables 44 and 45).

Vocational Directors. Over 60 percent of directors felt the college placement office was the most commonly used recruitment media. Directors were correct in their assessment of the most important formal recruitment media, although they overlooked the importance of informal recruitment.

Health and Welfare Education

Overview. The three most commonly used recruitment techniqes for H & W teachers are friends and relatives (50%), initial contact by the school system (22%), and direct application gy the teacher (12%). Informal recruitment techniques account for almost three-quarters of all H & W teachers recruited (see Tables 44 and 45). The implication is that the labor market for health and welfare teachers is tight and requires little effort on the part of the teacher. The use of the professional magazine appears to be particularly successful for health and welfare teachers.

The effectiveness index indicates that friends and relatives has been, by far, the most effective recruitment media for health and welfare teachers. Direct application, although the third best technique,

is not a very effective technique (see Table 48).

Table 48. Effectiveness Index

Technique	First Learned	Total Using	Index
Friends-Relatives	41	46	.89
School System	18	31	.58
Newspaper Ads	4	8	.50
Professional Magazines	4	8	.50
Professional Associations	4	9	.44
Direct Application	10	28	.36

Recent Trends. Over the last five years friends and relatives, the professional magazines, and direct application by the teacher have consistently been good recruitment media. However, initial contact by the school system has been declining somewhat as a successful technique.

Vocational Directors. Directors were fairly accurate in their assessment of recruitment media. Friends and relatives and the professional association were picked by approximately half of the directors as the most commonly used media. Direct application was also picked by a number of directors as the best technique. A few directors picked the newspaper ads or professional magazines as best. In sum, directors were fairly accurate but again underestimated the great importance of friends and relatives and professional acquaintances.

Technical Education

Overview. The average age of technical teachers at the time of recruitment was 34. The four most commonly used recruitment techniques for technical teachers are initial contact by the school system, friends and relatives, the college placement office, and direct application. Approximately half of the technical teachers are recruited informally through the first two methods. The newspaper ad and public service are

also good techniques supplying a total of 15 percent of technical teachers (see Tables 44 and 45).

The effectiveness index shows that in general the more successful techniques above are the most effective (see Table 49). However, there were two important exceptions. Both direct application by the teacher and the college placement office are not particularly effective even though they supply one-quarter of all technical teachers.

Table 49. Effectiveness Index

Technique	First Learned	Total Using	Index
Commercial Agency	2	2	1.00
School System	27	30	.90
Friends-Relatives	25	32	.78
Newspaper ads	9	12	.75
Public Service	8	11	.73
Professional Magazine	4	7	.57
College Placement	14	33	.42
Direct Application	13	32	.40

Recent Trends. Since 1961, both friends and relatives and inital contact by the school system have been declining in importance. In contrast, direct application by the teacher, the newspaper ad, and the professional magazine have been increasing in importance.

Vocational Directors. One quarter of the directors felt the newspaper ad was the most commonly used recruitment technique. Thirty percent felt that the college placement office was the best source. Directors were accurate in their assessment of the importance of these two techniques but they again underestimated the importance of friends and relatives and direct application by the teacher.

General Academic Education

Overview. The average age of general academic teachers at the time

of recruitment was 34. This substantiates our data on teacher sources which revealed that few general academic teachers entered directly from college. Most general academic teachers spent time in other teaching systems or in business and industry.

The four most commonly used recruitment media for general academic teachers are friends and relatives and direct application by the teacher, initial contact by the school system, and the college placement office (see Tables 44 and 45). Half of all general academic teachers are recruited by informal means (i.e., Friend-Relative, initial contact by school system).

The effectiveness index indicates that initial contact by the school system, friends and relatives, newspaper ads and direct application by the teacher have been quite effective. The most successful recruitment techniques have also been the most effective (see Table 50).

Table 50. Effectiveness Index

Techniques	First Learned	Total Using	Index
School System	38	44	.86
Friend-Relative	69	89	.78
Newspaper Ads	11	18	.61
Direct Application	47	81	.58
College Placement	29	54	.54
Professional Assoc.	3	6	.50
Public Service	8	19	.42
Community Agency	2	7	.29

Recent Trends. Friends and relatives, the college placement office and direct application by the teacher have consistently been good recruitment techniques for general academic teachers. Since 1963, the newspaper ad has been increasing in importance, while inital contact by the school system has been decreasing in importance. The public service has been

declining somewaht as a recruitment media since 1961.

Vocational Directors. Approximately half of the directors felt the college placement office would be the best recruitment media. Only four felt friends and relatives or direct application by the teacher was the best technique.

Coordinator Supervisor

The four most commonly used recruitment techniques for future coordinator-supervisors are initial contact by the school system, the college placement office, friends and relatives and direct application by the teacher (see Tables 44 and 45). The college placement office and public service (State Board VTAE) have helped supply more teachers for coordinator-supervisor positions than for any other curriculum area position.

Analysis of the effectiveness index indicates the most effective recruitment techniques have been initial contact by the school system, the college placement office and friends and relatives (see Table 51).

Table 51. Effectiveness Index

Technique	First Learned	Total Using	Index
School System	63	72	.88
College Placement	45	68	.66
Friends-Relatives	43	66	.66
Public Service	16	30	.53
Professional Magazine	4	8	.50
Direct Application	24	55	.44
Community Agency	4	9	.44
Newspaper Ads	5	12	.42
Professional Association	5	16	.31

CHAPTER VIII

SUMMARY AND CONCLUSIONS

Vocational teachers were studied in order to gain baseline information on teacher characteristics. A careful analysis of these characteristics should give us an indication of the educational, professional, and occupational qualifications of teachers in all major curriculum areas. Additional studies in the future and/or in other states should yield some valuable comparative data.

The teacher labor market was also closely analyzed to produce much needed data on teacher sources, mobility, and recruitment. It is hoped that much labor market inefficiency can be eliminated by careful study of the data.

The study itself has been divided into sex main areas of inquiry,

1. General characteristics
2. Educational status
3. Utilization and utilization change
4. Source
5. Mobility
6. Recruitment

These areas along with the appropriate hypotheses suggested will be used as the basis of this summary.

Some of the Major Findings

General Characteristics

In general, Wisconsin vocational teachers are well qualified both professionally and occupationally. The average teacher has had substantial related job experience (10 years) and equally substantial

teaching experience (11 years) most of it related to his present teaching assignment. At 42, the average teacher can look forward to many more years in the teaching system. Over one-fifth of present vocational teachers have been in the system 13 years or longer so that many of the teachers now in the system can be expected to remain.

The average salary of vocational teachers at $9,300 is comparable to salaries for junior college teachers in the Great Lakes region and far superior to public school teachers in Wisconsin. There is, however, great variability among vocational teacher salaries related to city size, education, and years in the system. All three of these variables were found to be quite relevant to salary determination even when the other two were controlled. Future studies might find it profitable to collect data in absolute numerical form so that a multiple-regression analysis could be performed to ascertain the relative importance of each of these variables in determining salary.

Analysis of the major curriculum areas showed great variability in certain teacher characteristics. In particular, the male-female ratio displayed the greatest extremes. Some curriculum areas were almost 100 percent male while others were almost 100 percent female. Only business and office education even approached a 50-50 split in the ratio. Teaching and work experience also varied but not to the same extent. Teacher salary varied but only within a $1000 range. However, coordinator-supervisors at $11,300 were almost $2000 above the highest curriculum teacher salary.

Education

The entrance educational background of Wisconsin vocational tea-

chers is characterized by a small proportion of advanced degrees and a fairly substantial number 15%) of teachers without a four-year degree. In sum, however, Wisconsin vocational teachers have fully met state certification requirements and are very active in furthering their education.

The teachers (15%) who entered without a four-year degree are not indicative of a breakdown in the educational standards of the system. The truth is that most of these teachers are in trade and industrial education and health and welfare education, where four-year degrees are not always required for professional competency. For the most part, these teachers make up for their lower educational background with more related occupational experience than the average teacher.

Only 22 percent of vocational teachers entered with a Master's degree, but by 1968 almost double that number had a Master's degree. The implication is that teachers have actively worked to improve their status. This implication is supported by the high proportion of teachers (40%) who indicated that they were presently working for another degree.

In recent years the average educational background of the entering vocational teacher has been improving. Our data has limitations for longitudinal study, but even over the last three years a definite improvement in entering educational status can be perceived.

Education varies greatly among the major curriculum areas. In general, trade and industrial teachers have the lowest background while general academic teachers have the highest educational background. Coordinator-supervisors are in a class by themselves with three-quarters of them having a Master's degree or higher.

Teacher Utilization

In general, vocational teachers were on the low side of most indexes of utilization. Less than one quarter of vocational teachers taught in another curriculum area while almost none were teaching in an area outside of their certification or specialization. However, many teachers held extracurricular positions (30%) and over half taught in night school. It would be quite valuable to find out if those teachers teaching in night school were doing so voluntarily or on a mandatory basis.

Little change was perceived in teacher contact hours or students per class over the last three years. In general, most teachers reported no change in class contact hours while half of them reported some increase in students per class.

There was little variability in utilization by curriculum area except in the proportion of teachers holding night school positions. Here, the proportions varied from about 70 percent of coordinator-supervisors to almost zero for health and welfare teachers.

Similarly, there was little variability in utilization change by curriculum area. The only obvious differential was between health and welfare teachers who had the highest utilization change scores for both variables and general academic teachers who had the lowest for both.

Sources

Vocational teacher sources vary by the curriculum area, but in general they vary be degree only. In other words, the top four or five sources are the same for almost all curriculum areas but differ in each case as to their relative importance.

Business and industry was, by far, the most commonly used source

of vocational teachers. One-third of vocational teachers are recruited from business and industry. General academic teachers and administrators in the public school system, students in teacher education programs and teachers of vocational subjects in high school are the other top sources. Other possible sources suggested by research, such as the military, were not found to be particularly important at this time.

It is interesting to note that 17 percent of present full-time teachers originally entered as part-time teachers. The high number of former part-time teachers may have important policy implications for the development of other full-time teachers through part-time teaching experience. Former vocational teachers who re-entered the system supplied only 7 percent of teachers recruited but supplied approximately 10 percent of coordinator-supervisors. Perhaps more effort should be made by the V.T.A.E. system in recruiting such former teachers for the often hard-to-fill supervisory and administrative positions.

Teachers recruited from business and industry were more closely analyzed to see what specific industries they came from. Most of these teachers came from the manufacturing and service industries. It was found that there was a definite tendency for such teachers to receive less money (i.e., salary) when they first entered the vocational system, Thus, money which is often spoken of as the key to recruitment, may not be as important as previously thought. Obviously, money is still very important, and if the salary differential is large enough more teachers will be recruited. However, it now appears that other factors may be just as important and should be considered by the system in recruiting such teachers.

Teacher sources have been changing in recent years and certain new or rarely used sources are being increasingly referred to. Three different sources are being used in greater proportions than ever before (i.e. students in nonteacher education programs, general academic teachers and administrators in public schools, and nursing personnel). In addition, college teachers and teachers in other vocational systems show signs of increasing importance. Other traditional sources such as business and industry, students in teacher education programs and high school vocational teachers show signs of decline, although they are still the most important sources. A comparison of the different curriculum areas shows that there is variation in the changing use of the different sources.

Mobility

The Wisconsin vocational system would like to develop along the broader recruitment lines of a junior college system. Attempts have been made through the 1967 national recruitment campaign to place recruitment advertisements in professional journals and magazines throughout the country. However, at this point, the Wisconsin vocational teacher is highly immobile in comparison to the average new college teacher.

The median move of a new college teacher as reported by David G. Brown is approximately 500 miles (see Chapter VI on Mobility). In comparison, only 17 percent of vocational teachers even come from out of state, most from states that border Wisconsin. Only 46 teachers in the entire survey (1079) come from states outside the midwest region. In-state recruited teachers also rarely travel over any great distances. Over three-quarters of the in-state recruited teachers come from within a 100 mile radius, most of them coming from within 50 miles. In sum, only one

out of three teachers are from out of state or more than 100 miles away in-state. The median move is obviously far below 500 miles.

More recently there appears to have been an increase in the number of teachers coming from out-of-state. In 1967-68, 22 percent of entering vocational teachers came from out-of-state. It is quite probable that many of these teachers were recruited through the national recruitment campaign. However, it should be noted that most of these teachers came from states that border Wisconsin. In sum, vocational teachers are highly immobile (at the present time). The recent increase in out-of-state mobility has been moderate and limited to the midwest region. There has been no increased tendency to recruit teachers from outside the midwest.

There is some variability in teacher mobility by curriculum area, however, this variation is slight and undefinitive. In almost all cases, curriculum areas which have higher out-of-state recruitment also have a higher proportion of out-of-state teachers who come from states that border Wisconsin. In total, mobility is almost exactly alike for all curriculum areas. Only general academic teachers appear to be obviously less mobile than the average vocational teacher. It may be that vocational teachers who are highly immobile in comparison to college teachers, are mobile in comparison to public school teachers (i.e. primary and secondary). Unfortunately, we have no data to test this hypothesis.

Vocational teachers exhibit little inter-school mobility. Eighty-five percent of surveyed teachers have taught in only one school. Only health and welfare teachers and general academic teachers are significantly less mobile (i.e. inter-school mobility) than the average teacher.

Recruitment

Vocational teachers displayed a surprising tendency to use almost the exact same recruitment techniques as college teachers did as reported by David G. Brown (see Chapter VII on Recruitment). In both cases, the overwhelming majority of teachers recruited were recruited through the informal means of friends, relatives, and professional acquaintances and initial contact by the school system. In addition, in both cases, the most successful formal recruitment techniques used were direct application by the teacher and the college placement office and graduate department.

The four most commonly used recruitment media for vocational teachers were friends and relatives (29%), initial contact by the school system (26%), direct application by the teacher (15%) and the college placement office (14%). Analysis of the data reveals that these techniques have consistently been best. However, in recent years, the success of newspaper ads, professional magazines and the public employment service (i.e., State Board) have been increasing. For example, up until 1965, not one teacher was recruited through the use of the professional magazine. In 1967-68, over 6 percent of teachers were recruited through this method. (It is quite possible that this is a reflection of the national recruitment campaign of 1967.)

An effectiveness index, similar to the index used by Sheppard and Belitsky in The Job Hunt, was constructed for vocational teachers. In essence, this effectiveness index is used as an aid to labor market efficiency. It is assumed that the applying potential teacher has the necessary qualifications to teach. The question then asked is, given these qualifications, what is the most effective way to land a teaching job.

The index revealed that initial contact by the school system has been the most effective technique. This is not too surprising, since contact by the school system may have occurred after some form of selection on the part of the system. However, the high index score is an indication to the teacher of the importance of being contacted by the school system.

The use of friends and relatives and professional acquaintances by the teacher appears to be very effective, however, little is known of the actual mechanisms involved. Probably the main point to be gleaned is that potential teachers should listen very carefully to what friends, relatives, and professional acquaintances have to say about job opportunities since about one-third of vocational teachers learned of their job through these means.

The newspaper ad, college placement office, and State Board are all quite effective for vocational teachers. Direct application (i.e. blind letter) while still quite effective, is not as effective as these other techniques.

Over-all, the results indicate that the teacher labor market has been a seller's market. Vocational teachers have a wide choice of recruitment techniques, many of which are quite effective. Most teachers seem to be able to secure a job using one or at most two recruitment techniques. The best recruitment media, friends and relatives, represents a highly informal recruitment method, while the second best method (school initiation of contact) requires no effort at all on the part of the teacher.

There is some variation in the use of recruitment methods by curriculum areas, however, again, the difference is in degree only. In almost all cases, the average age of the teacher at the time of recruitment was

34, while the four most commonly used techniques were friends and relatives, initial contact by the school system, direct application and the college placement office.

Suggestions for Further Research

Additional research is needed to supplement the information already revealed in this study. More studies on the relative attractiveness of various recruitment factors are needed. Some knowledge has been gained about the teacher labor market, but very little is known about the motivational factors inducing such people to teach. In particular, what are the most important factors in recruiting a new teacher? Are teachers recruited because of high salary, job secruity, conditions of work or a love of teaching?

This study revealed that teachers recruited from business and industry usually earned less money upon entering the system. It would be quite useful to learn what the relevant factors were in inducing these people to teach. Obviously, any thorough attempt to understand teacher recruitment must encompass such a study. In addition, much work is needed on important factors in teacher retention. Some people claim that the problem facing the school system is not recruitment but retention. A thorough analysis of why teachers leave the system would be most helpful. Do vocational teachers leave because of better job offers, because of something the school system did not provide, or because of a recently gained dislike of teaching? Research in this area could provide a key to the teacher shortage problem.

Additional research would also be quite valuable in the area of teacher mobility. Why are vocational teachers so immobile in comparison

to college teachers? What are the characteristics of vocational teaching and vocational teachers that account for this difference? All of the studies mentioned overlap to a degree, but any thorough study of teacher recruitment will have to encompass an analysis of teacher behavior in the recruitment, mobility, and turnover process.

The present study is just a pilot study in an area where little research has been done. To use an old but still appropriate cliche, this study has just scratched the surface of knowledge in the area. More follow-up research is needed along the lines of the study and those mentioned above to pinpoint the changing trends in teacher characteristics and recruitment. The present study has major limitations for longitudinal analysis, but it is a basis on which to build a time series study.

It is most important that future studies concentrate on collecting data in absolute numerical form as opposed to nominal form. The use of data in categorical form severely limits the statistical tests and analyses that can be performed. In the present study, data was collected in nominal form in order to get as much cooperation (i.e. response rate) from the respondents as possible. Obviously, future studies will also have to face the conflict of ease of questionnaire completion versus exactitude of the data. It is recommended that the researcher avoid sacrifice of data form if it is at all possible.

CHAPTER IX

POLICY RECOMMENDATIONS

Almost every study on the vocational teacher shortage concludes by criticizing the vocational system for having such rigid certification requirements. The standard complaint is, why require the same educational standards for T & I teachers as for general academic teachers. The complaint is based on the knowledge that field experience is invaluable and may in some circumstances be even more valuable than a college degree or teaching credits.

Admittedly, there is much merit to this argument and to a certain degree the Wisconsin system is guilty of such inflexibility. Many experienced craftsmen who have the ability to teach are arbitrarily excluded from the vocational system. Unfortunately, this is a "real world" problem and as such we must face reality. The post-high school vocational school will not lower its educational standards for full-time teachers in degree programs because this would conflict with the desire of such schools to improve their quality and increase their prestige (i.e. image) by becoming technical or junior colleges. The full-time degree program as the showcase of such schools is the last place to expect an accommodation on teacher qualifications. It is quite possible that vocational personnel realize that those with lower educational backgrounds may make excellent teachers but they (vocational personnel) do not feel they have a choice.

It would be much more propitious to facllitate teacher recruitment

through other means--increase supply, change certification requirements in night school, salary differentials for recruitment, retention experimentation, auxiliary personnel.

Teacher Supply

The difficulty in filling vocational teacher positions today arises because of the specialization inherent in these positions. The vocational system is no longer hiring "agricultural teachers" but specialists in "agri-business," "agri-accounting," or "ornamental horticulture." The problem is, how do you train such teachers.

Obviously, if the demand for ornamental horticulturalists is for one or two a year, you do not set up a college program in this area. What do you do? The response of the state universities in Wisconsin has been essentially "do nothing." Graduates of the state university system are a very small yearly source of post-high school vocational teachers. Stout State University reported that of 198 graduates in industrial education last year, only five taught in the V.T.A.E. system. The results are similar for the rest of the state universities.

The vocational system needs an educational institution located in the midwest which would supply the entire region with such specialists. If one or two such teachers are needed in one state, a program cannot be set up; but if 15 teachers are needed a year in six states, such a program would be feasible. It is suggested that such an institution or institutions be located in the midwest because this seems to be the limit of vocational teacher mobility.

The system would be based on the idea that each state would send

students in the state who desired to specialize in the given area. One state might have an institution for specialists preparing in business and office education, while another might concentrare on specialists in technical education, etc. There are quite obviously many obstacles and problems of implementation to be overcome, but if the states consider the problem serious enough, they will cooperate with each other.

Alternatively, it is suggested that teachers and administrators within the Wisconsin vocational system make a strong effort to identify potential teachers among their own two-year degree students. These students should then be given the opportunity of completing two additional years within the state university system. At the end of these two additional years the student would be granted an educational degree in the area of his speciality.

Two things would have to be done to make this system viable. One, a special two-year program would have to be set up within the state system to take in these new students. The two-year program could be uniform for all these students since their specialization came in their first two years of post-high school education. Secondly, such potential teachers would probably have to be encouraged to complete the additional two years by means of fully-paid tuition scholarships or other similar inducements.

In sum, there would be many obstacles to this program but the idea of self-perpetuating recruitment to fulfill specialized needs is well worth studying.

Certification Requirements in Night School

It is suggested that increased flexibility in night school certification requirements would serve as an additional avenue of full-time teacher recruitment. It was discovered earlier in our study that 17 percent of the present full-time teachers originally entered as part-time teachers. It seems evident that by increasing the opportunity for people to teach at night (part-time), you are increasing the possibility of recruiting future full-time teachers. By providing increased opportunity to teach in night school, many occupationally competent individuals may be given the added incentive they need to complete their college education or minimum requirements for full-time certification.

Salary Differential for Recruitment

It is suggested that the vocational system consider the possibility of scheduling differential salary rates for different subject areas. Areas which are in highest demand and require the greatest skill would be given priority treatment.

The concept of uniform salary schedules, although consistent with education standards is inconsistent with reality. The vocationnal system must accept the fact that their biggest competitor is business and industry. If the vocational system is to compete, it must compete through industrial and business recruitment procedures. Specifically, industrial recruitment procedures include not only salary differentials but also such things as payment for the cost of moving and payment for interview expenses.

Retentional Experimentation

It is suggested that the State Board gather data on the annual turnover of vocational teachers. If it is found that such turnover is a major problem, it is recommended that the Board conduct research as previously suggested, on factors involved in turnover and recruitment. Such further research would most probably produce additional policy recommendations.

Auxiliary School Personnel

Experimentation should be undertaken to determine what proportion of teacher time is spent on clerical and subprofessional tasks. If such tasks are a major portion of teacher time, then perhaps much inefficiency can be avoided by the use of teacher aides. Teacher aides might be used only in subject areas where there are a shortage of teachers. Regardless, further research would have to be done on the necessary qualifications and availability of such personnel.

In conclusion, what is needed is some action. New programs along the lines suggested above should be initiated, even if only on an experimental basis. These programs may or may not provide a solution, but they will provide a basis for further study through which a solution will eventually be reached.

APPENDIX A

Form OE 3112

Source: Office of Education
Bureau of Adult, Vocational and Library Programs
Division of Vocational and Technical Education
Washington, D. C. 20202

State Wisconsin
Fiscal Year 1968-69

Original Estimate /X/

Revised Estimate /___/

Estimate of Total Expenditures for Vocational Education Purposes under all Vocational Education Acts

PURPOSE (1)	Total All Funds (Cols 3 + 4 + 5 + 6) (2)	Federal Funds		State and Local Funds	
		Smith-Hughes and George-Barden 2/ (3)	1963 Act 3/ (4)	State (5)	Local (6)
Secondary	5,057,827	557,990	1,447,837	52,000	3,000,000
Post-Secondary (Purpose (2), 1963 Act)	8,599,447	--	599,447	5,000,000	3,000,000
Adult	4,306,293	106,293	400,000	800,000	3,000,000
Persons with special needs	150,000	--	50,000	50,000	50,000
Construction of area vocational schools	5,300,000	//////////	2,100,000	--	3,200,000
Ancillary services (Total)	3,800,000	--	400,000	400,000	3,000,000
Administration and supervision		--			
Teacher education		--			
Guidance		--	N.A.	N.A.	N.A.
Research		--			
Curriculum development		--			
Other		--			
Total	27,213,567	664,283	4,997,284	6,302,000	15,250,000
Work Study	278,000	//////////	207,893		70,107

1/ Estimates of expenditures as projected in accordance with the policies and procedures in Section 1.3 of the State plan.

2/ Include all funds under Smith-Hughes and George-Barden allotments, except funds to be transferred to the allotment under the 1963 Act.

3/ Include funds to be transferred from Smith-Hughes and George-Barden allotments to the allotment under Section 3 of the 1963 Act.

I certify that the information set forth herein, including the representation as to amounts of State and local funds to be expended under the plan during the stated period, is true to the best of my knowledge and belief.

(Date) June 20, 1968 (Signed) C. L. Gruber (Title) State Director and Executive Officer

APPENDIX B

TABLE 4: ENROLLMENT TRENDS, WISCONSIN SCHOOLS OF VOCATIONAL, TECHNICAL AND ADULT EDUCATION 1953-54 THROUGH 1967-68

School Year	Daytime Voluntary Full-time	Daytime Voluntary Part-time	Compulsory Aged	Total Day	Evening	Non-Aided	Total
1953-54	3,104	28,980	8,450	40,534	74,475	*	115,009
1954-55	3,540	30,218	7,520	41,278	77,798	*	119,076
1955-56	3,708	32,364	7,996	44,068	79,964	*	124,032
1956-57	3,720	35,537	8,483	47,740	84,077	*	131,817
1957-58	3,971	35,156	8,628	47,755	84,991	*	132,746
1958-59	4,232	39,004	8,895	52,131	90,855	*	142,986
1959-60	4,289	37,068	6,024	47,381	92,965	*	140,346
1960-61	5,430	36,389	5,019	46,838	67,337	39,337	153,512
1961-62	6,674	35,787	4,231	46,692	80,256	35,266	162,214
1962-23	7,783	40,589	3,305	51,677	83,899	33,309	168,885
1963-64	9,934	35,660	3,421	49,015	94,031	33,204	177,456
1964-65	12,011	38,909	3,103	54,023	93,936	37,659	185,608
1965-66	13,982	44,507	2,351	60,840	91,901	35,787	188,528
1966-67	16,900	51,373	1,516	69,789	86,528	30,348	186,665
1967-68	20,000						200,009
1970	25,400	47,170	Low Projections		144,778		237,000
1980	54,900	65,142			263,547		348,000

Source: State of Wisconsin, Department of Resource Development, Vocational, Technical and Adult Education Facilities. Madison, Wisconsin, 1967.

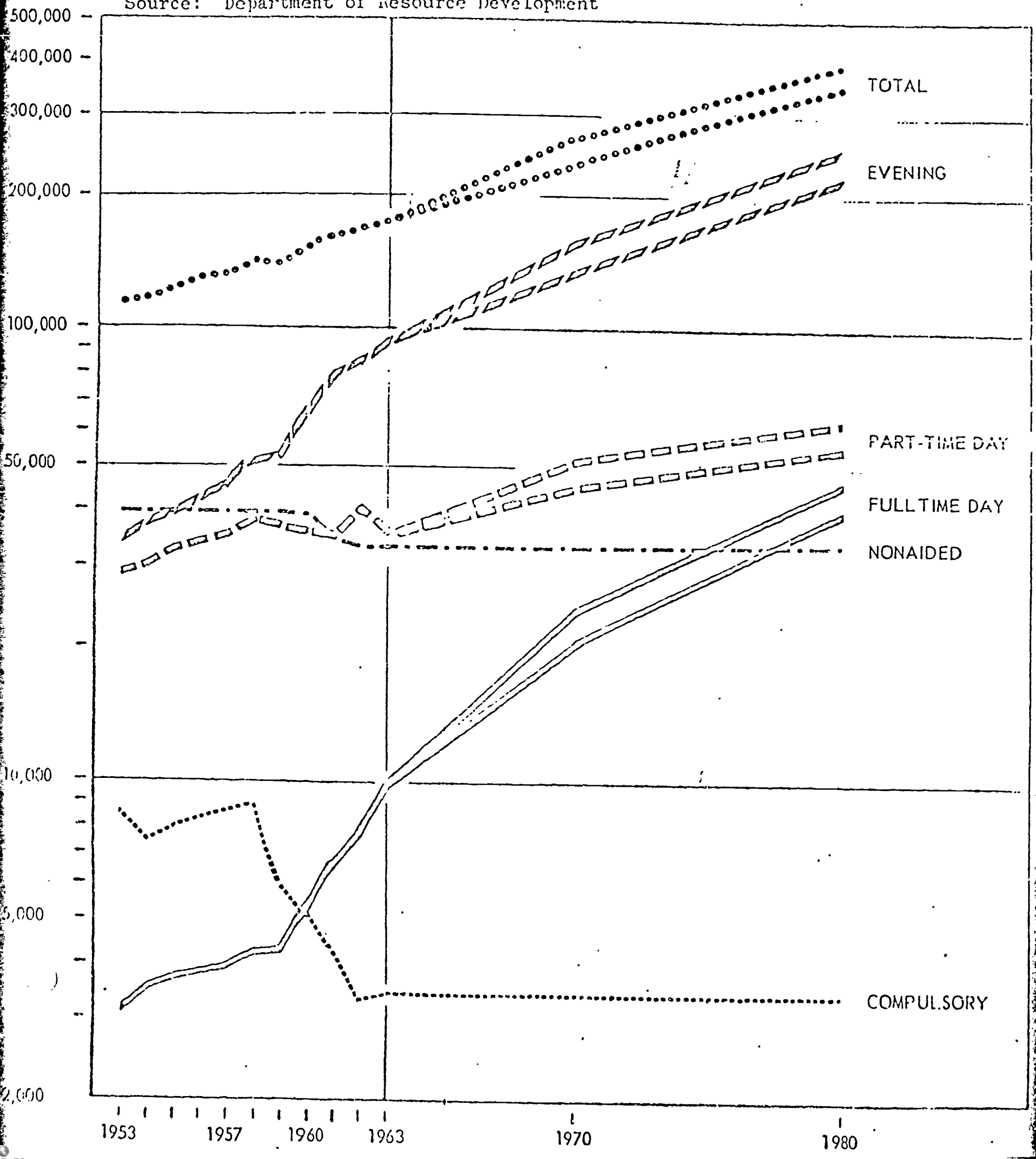
Wisconsin State Board VTA, Professional Growth Week, Madison, Wisconsin, 1965.

APPENDIX C

TOTAL STUDENT ENROLLMENTS: 1953-1980 -State of Wisconsin

HIGH AND LOW PROJECTIONS

Source: Department of Resource Development



WISCONSIN BOARD OF VOCATIONAL, TECHNICAL AND ADULT EDUCATION
Madison, Wisconsin 53703
C. L. Greiber, Director

March 8, 1968

Dear Faculty Member:

We wish to enlist your cooperation in an important research study that is being conducted jointly by the Wisconsin Board of Vocational, Technical and Adult Education and the University of Wisconsin's Center for Studies in Vocational-Technical Education. The broad objectives of this study are concerned with an examination of vocational teacher supply and recruitment.

Research to date indicates a severe shortage of certain vocational personnel with indications of even greater shortage in the future. It will be the aim of this study to determine exactly where these shortages are, what their effects have been, and how they may be remedied. To explore these and related areas, we have designed the attached questionnaire, and we seek your assistance and cooperation in providing us with the necessary information. As you will see, all questions ask only for objective information and most can be answered quickly with a check mark, or one or two words.

All replies are, of course, confidential since no names are required on the questionnaire. All tabulations will be handled by computer at the University of Wisconsin. Please complete and return the forms at your earliest possible convenience to the office or the person designated to collect the completed questionnaires.

Thank you for taking time from your schedule to participate in this vital research effort.

Sincerely yours,

C. L. Greiber

State Director
Vocational, Technical and Adult Education

C.L.Greiber
ss

TEACHER, TEACHER COORDINATOR AND SUPERVISOR QUESTIONNAIRE

GENERAL INFORMATION

1. a) Name of School_____ b)School District #____

2. Location--City_____

3. Is the population of this city (1)__less than 25,000 or (2)__greater than 25,000.

4. Sex (1)__Male (2)__Female

5. Age at last birthday ___years

YOUR ASSIGNMENT

6. Is the majority of the work (i.e. time spent in a week) in your present assignment in the VTA Educ. system in: (1)__classroom teaching and teaching preparation or (2)__coordination, supervision or administration.

7. Indicate the <u>one</u> division or major curriculum area in which you are teaching at the present time. Supervisors or teacher-coordinators check choice #9 if the majority of your work is not in teaching but in supervising or coordinating.
(1)___Trade and Industrial
(2)___Business and Office
(3)___Home Economics
(4)___Agriculture
(5)___Distributive
(6)___Health and Welfare (Check only <u>one</u>)
(7)___Technical
(8)___General Academic
(9)___Supervisor, Coordinator, Teacher Coordinator or Administrator

SUPERVISORS AND TEACHER COORDINATORS, ETC. (Choice 9, question #7) should not answer questions 8-14. Please go to question #15.

8. a) What is <u>the</u> major subject area that you teach specifically--(i.e. Business--<u>accounting</u>)_____

If you do not concentrate on one particular subject area, skip 8(a) and answer 8(b) and 8(c).

b) How many different subjects are you teaching this semester____
c) <u>List</u> below all those subjects that you are teaching this semester:

_____, _____, _____

_____, _____, _____

9. Is the subject area or areas in whcih you are teaching:
   (1) ___ entirely in your area of specialization
   (2) ___ entirely in your area of certification
   (3) ___ entirely in both your area of specialization and certification
   (4) ___ partly in your area of specialization and certification
   (5) ___ entirely in areas other than your specialization and certification

10. Approximately how many years of work experience directly related to your present teaching assignment do you have? (General academic teachers please skip this questions)...years.

11. Has your class contact hours per week over the last three years:
   (1)___increased greatly (4)___decreased slightly
   (2)___increased slightly (5)___decreased greatly
   (3)___remained approximately the same (6)___N.A. (Not applicable)

New teachers or recently employed teachers please include previous teaching assignments within the last three years. If you were not teaching check N.A. in questions #11 and #12.

12. Has the number of students per class in the majority of your classes taught over the last three years:
   (1)___increased greatly (4)___decreased slightly
   (2)___increased slightly (5)___decreased greatly
   (3)___remained approximately the same (6)___N.A. (Not applicable)

13. a) Do you hold an extra-curricular position pertaining to students in your school? (i.e. student newspaper, clubs, coach, student council, coordinator, etc.) (1)___Yes (2)___No

    b) If yes, please specify:_____

    _____

14. Approximately how many years of teaching experience related to your present assignment do you have? Part-time experience___, Full-time experience___years.

15. Do you also teach, coordinate or supervise in night school?
   (1)___Yes (2)___No

16. a) During which of the following periods of time did you first enter the Wisconsin Vocational, Technical and Adult Education System?
   (1)___Before 1950 (4)___1961-1962 (7)___1967-1968
   (2)___1950-1955 (5)___1963-1964
   (3)___1956-1960 (6)___1965-1966

    b) Did you enter as a ___full-time or ___ part-time employee?

17. a) Is the school at which you presently hold a position the same school in which you were originally employed in the Wisconsin VTA Education System? (1)__Yes (2)__No

b) If not, in which year did you enter your present school?
(1)__Before 1950 (4)__1961-1962 (7)__1967-1968
(2)__1950-1955 (5)__1963-1964
(3)__1956-1960 (6)__1965-1966

c) How many different VTA schools have you worked in since entering the VTA system_____?

18. Approximately how many years of total full-time teaching experience do you have? (Either related or unrelated to your present assignment)_____years

19. What type of certification do you hold? (1) Provisional____
(2) Standard_____

20. Approximately what percent has your salary increased in the last three years?
(Divide salary increase over the last 3 yrs. by base salary 3 yrs. ago).
(1)__Under 5 percent (4)__21-30 percent
(2)__5-10 percent (5)__Over 30 percent
(3)__11-21 percent (6)__N.A. (not in VTA Sys. over 3 yrs.)

EDUCATIONAL LEVEL

21. a) What was your educational level when your first entered the Wisconsin VTA Education System (Column I) and (b). What is your present educational status (Column II). Check highest degree attained in each column

	COLUMN I		COLUMN II
(1)	_____	Apprenticeship training graduate	(1)_____
(2)	_____	High School graduate	(2)_____
(3)	_____	2-year associate degree graduate	(3)_____
(4)	_____	Some college	(4)_____
(5)	_____	4-year college degree graduate	(5)_____
(6)	_____	Graduate credits	(6)_____
(7)	_____	Masters Degree	(7)_____
(8)	_____	Post-Masters Degree Credit	(8)_____
(9)	_____	Doctorate	(9)_____
(10)	_____	Other--Specify	(10)_____

22. Where did you receive the major portion of your post-high school education: (1)__in Wisconsin (2)__out-of-state (3)__Not Applic.

23. a) Are you presently working toward a degree? (1)__Yes (2)__No
b) If yes, what is the degree you are working toward?
(1)__Associate (3)__Master's
(2)__Bachelor's (4)__Doctorate

TEACHER SOURCES

24. a) What did you do <u>just before</u> joing the Wis. Voc-Tech & Adult Education system. NOTE: Do not include temporary summer employment
(1)__Employed in Busines or Industry
(2)__Student in teacher education program in college
(3)__Student in college program not related to teacher preparation
(4)__Teaching a vocational subject in a high school system
(5)__Teaching an academic subject in a high school system
(6)__Teaching in a vocational or technical school system in another state
(7)__The military
(8)__Other, please specify:_____

b) Where didyou <u>reside</u> must before you took your initial position in the Wisconsin VTA Educ. system: (1)__in Wisconsin
(2)__out of state

c) If out of state, indicate state_____
d) Does this state border on Wisconsin? (1)__ Yes (2) __ No

e) If your former position was in Wisconsin, was it within approximately:
(1)__50 mile radius
(2)__100 mile radius
(3)__150 mile radius
(4)__Over a 150 mile radius from your initial position in the VTA system.

If your answer to question #24(a) was Business or Industry, please answer the following question (#25 a-d).

25. a) What type of industry were you in?
(1)__Manufacturing
(2)__Contract Construction
(3)__Transportation and Public Utilities
(4)__Wholesale-Retail Trade
(5)__Finance, Insurance and Real Estate
(6)__Government (other than military)
(7)__Service and Miscellaneous
(8)__Agriculture
(9)__Mining

b) What was your specific occupation? (clerk, carpenter, welder)

_____

c) How many years had you worked in this occupation at the time you joined the Wisconsin VTAE system as a full-time employee?
_____years.

d) When you first became a full-time employee of the Wisconsin VTAE system did you initially earn:
(1)__much more
(2)__slightly more
(3)__Approximately the same
(4)__slightly less
(5)__much less than in your former position in Business or Industry

25. Are you a former vocational teacher who left teaching, but who came back to vocational or technical teaching, supervising or coordinating ? (1) __ Yes (2) __ No

OBTAINING YOUR POSITION

26. How did you <u>first learn</u> about your initial (entry) position in the Wisconsin VTAE system. Check only <u>one</u>--
(1)__Friends and Relatives
(2)__Newspaper Ad: Position Available
(3)__Professional Magazine
(4)__Professional Association
(5)__Labor Union
(6)__College Placement Office
(7)__Commercial Teacher Placement Agency
(8)__Radio and TV
(9)__Public Employment Service
(10)__Direct Application or Personal Ad: Candidate Available
(11)__Contacted First by School System through Mail or in Person
(12)__Other, Please Specify_____

27. How many of the methods in question #26 did you make use of in searching for your initial position in the Wisconsin VTAE system. Check below <u>all those appropriate</u>--
(1)__Friends and Relatives
(2)__Newspaper Ad: Postion Available
(3)__Professional Magazine
(4)__Professional Association
(5)__Labor Union
(6)__College Placement Office
(7)__Commercial Teacher Placement Agency
(8)__Radio and TV
(9)__Public Employment Service
(10)__Direct Application or Personal Ad: Candidate Available
(11)__Contacted First by School System Through Mail or in Person
(12)__Other, Please Specify_____

28. To approximate the general level of salary in the state in order to analyze for change, would you kindly check the range of your regular contract salary as a full-time employee of the Wisconsin VTAE system. Do not include part-time or evening activity.
(1)__Under $5,000
(2)__5,000 - 6,999
(3)__7,000 - 8,999
(4)__9,000 - 10,999
(5)__11,000 - 12,999
(6)__Over $13,000

APPENDIX E

School District	# of Teachers	Response	Response Rate
Fennimore #3	6	6	100%
Madison #4	168	118	70%
Kenosha #6	69	56	78%
Racine #7	63	41	65%
Waukesha [illegible]	58	35	60%
Fond du Lac #10	46	41	89%
Sheboygan #11	57	49	86%
Neenah #12	92	57	59%
Green Bay #13	58	49	84%
Wisconsin Rapids #14	27	22	81%
Rhinelander #16	8	6	75%
Ellsworth #18	5	4	80%
Ashland	23	5	22%
Beloit	16	16	100%
Chippewa Falls	10	0	0
Cudahy	10	0	0
Eau Claire	76	55	72%
Janesville	35	13	37%
LaCrosse	98	53	54%
Marinette	11	0	0
Milwaukee	375	292	78%
Port Washington	7	2	29%
Rice Lake	39	20	51%

(cont.)

South Milwaukee	11	11	100%
Stevens Point	25	14	56%
Superior	35	24	69%
West Allis	22	18	82%
West Bend	8	5	63%
TOTAL	1553	1080	70%

APPENDIX F

WISCONSIN BOARD OF VOCATIONAL, TECHNICAL AND ADULT EDUCATION
Madison, Wisconsin 53703
C. L. Greiber, Director

March 8, 1968

Dear Faculty Member:

We wish to enlist your cooperation in an important research study that is being conducted jointly by the Wisconsin Board of Vocational, Technical and Adult Education and the University of Wisconsin's Center for Studies in Vocational-Technical Education. The broad objectives of this study are concerned with an examination of vocational teacher supply and recruitment.

Research to date indicates a severe shortage of certain vocational personnel with indications of even greater shortage in the future. It will be the aim of this study to determine exactly where these shortages are, what their effects have been, and how they may be remedied. To explore these and related areas, we have designed the attached questionnaire, and we seek your assistance and cooperation in providing us with the necessary informatio As you will see, all questions ask only for objective information and most can be answered quickly with a check mark, or one or two words.

All replies are, of course, confidential since no names are required on the questionnaire. All tabulations will be handled by computer at the University of Wisconsin. Please complete and return the forms at your earlie possible convenience to the office or the person designated to collect the completed questionnaires.

Thank you for taking time from your schedule to participate in this vita research effort.

Sincerely yours,

C. L. Greiber

State Director
Vocational, Technical and Adult Education

C.L.Greiber
ss

DIRECTOR QUESTIONNAIRE

1. Name_____

2. School(s)_____

3. District_____

As a Director in the Wisconsin Vocational, Technical and Adult Education system you have probably had to obtain teachers from various sources using several different methods of recruitment. We would like to obtain on this questionnaire your opinion as to which is the best single source and best single recruitment technique for teachers in each of the 8 major curriculum areas (as listed in Section I). Please follow the instructions in Sections II and III.

Section I

Column A (Most Prevalent Sources)		Column B (Most Effective Technique)
_____	Trade and Industrial Teacher	_____
_____	Business and Office Teachers	_____
_____	Agriculture Teachers	_____
_____	Distributive Teachers	_____
_____	Health and Welfare Teachers	_____
_____	Technial Teachers	_____
_____	General Academic Teachers	_____
_____	Home Economics Teachers	_____

Section II

Would you kindly indicate for each curriculum area (Section I, Column A) the number of the source (listed below) which you consider to be most valuable (i.e. prevalent) in supplying such teachers. (i.e. #1 Trade & Industrial)

Source

1--Business or Industry
2--Graduate from Teacher Education Program in College
3--Graduate from College Program Not related to Teacher Preparation
4--Teacher of Vocational Subject in a High School System
5--Teacher of an Academic Subject in a High School System
6--Teacher in Another Vocational or Technical System Outside Wisconsin
7--The Military
8--Other, please specify_____

Section III

Would you kindly indicate in Column B of Section I which method of recruitment (listed below) you consider to be most effective for each curriculum area. (i.e. #3 Technical)

Source

1--Friends and Relatives
2--Newspaper Ad: Position Available
3--Professional Magazine
4--Professional Association
5--Labor Union
6--College Placement Office
7--Commercial Teccher Placement Agency
8--Radio and TV
9--Public Employment Service
10--Direct Application by Teacher by Mail, in Person, or Newspaper

Section IV

Would you please estimate how many part-time teachers teaching in the full-time day programs you have. Do not include part-time teachers teaching only part-time students or part-time teachers who have other positions in the school.

# of Teachers	Type of Teacher
_____	Trade and Industrial Teachers
_____	Business and Office Teachers
_____	Home Economics Teachers
_____	Agriculture Teachers
_____	Distributive Teachers
_____	Health and Welfare Teachers
_____	Technical Teachers
_____	General Academic Teachers

APPENDIX F

DIRECTOR RESPONSE

DISTRICT District	Director	Responded Yes	 No
District #3	Conrad Meyer	X	
District #4	Norman Mitby	X	
District #6	Keith Stoehr	X	
District #7	Howard Heigl	X	
District #8	A. J. Natalizio	X	
District #10	H. J. VanValkenburg	X	
District #11	F. J. Nierode		X
District #12	William Sirek	X	
District #13	K. W. Haubenschild	X	
District #14	Earl F. Jaeger	X	
District #15	L. B. Hoyt	X	
District #16	Olav R. Enli	X	
District #18	Arthur H. Cothran	X	
Ashland	Rinaldo Bonacci	X	
Beloit	Richard A. Oster		X
Chippewa Falls	W. D. Flanagen		X
Cudahy	Gustav Hirsch		X
Eau Claire	C. W. Beede	X	
Janesville	O. L. Johnson	X	
La Crosse	Charles G. Richardson	X	
Marinette	Thorwald Magnuson		X
Milwaukee	Dr. George Parkinson	X	
Port Washington	Peter Jushka	X	
Rice Lake	James Covey	X	
South Milwaukee	Joseph Longo	X	
Stevens Point	H. J. Michalsen	X	
Superior	Sam L. Lavine	X	
West Allis	Victor Schmitt	X	
West Bend	Lee Flanders	X	

APPENDIX G

STATISTICAL APPENDIX

The Chi-sqaure and Means test used are taken from:

Blalock, Hubert. Social Statistics. New York: McGraw-Hill Book Company, Inc., 1960.

The model used for the Means test is:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{Q_1 - \bar{x}_2} \qquad \text{where}$$

$$Q_{\bar{x}_1 - \bar{x}_2} = \frac{S_1^2}{N_1 - 1} + \frac{S_2^2}{N_2 - 1} \qquad df = N_1 + N_2 - 2$$

This model does not assume that Q must equal Q. This model gives an efficient estimate except where the N's are not too large or where the sample sizes are very different. For large samples this simpler method will yield results similar to other methods which assume $Q_1 = Q_2$)if the standard deviations are equal) and a better estimate if they are not.

In our study, sample size is large and it was thought this test would be most appropriate since it makes the fewest assumptions.

The Chi-square test used is the standard one with significance being tested for at the .05, .01 and .005 levels. Relationships which are recorded as not significant are not significant at the .05 level.

APPENDIX H

The State Board of Vocational, Technical and Adult Education issues three different types of certificates upon request of the local director. The first is Approval Certification which is required of all teachers who teach under 450 hours during the school year. Second, is the two year Provisional Certification for all teachers who teach 450 hours or more a year. This certification is renewable upon demonstrtion by the teacher of having satisfactorily completed the work required by the state board for progress toward the Standard State Certification (i.e. a minimum of 6 credits or 3 months work experience or a combination of these, is required in any two year period). Such provisionally certified teachers must have a Bachelors degree with an appropriate major or minor. Teachers of skilled subjects must be high school graduates and may substitute appropriate work experience of a learning nature for education, in addition to the work experience normally required. The required work experience for each subject is as follows:

1. General Subject -- 3 months
2. Home economics, Business education -- 6 months
3. Trade and Industrial -- 1½ years
4. Technical -- 6 months -- in the area of teaching

Standard Certification is valid for life upon satisfactory completion of requirements. Standard certification requires 12 special education credits in addition to the education requirements for the provisional certificate. The occupational experience required for this certification is twice that required for provisional certification in each curriculum area. Lastly, to receive Standard Certification a teacher must have completed 3 years of satisfactory teaching in the system.

Source: Wisconsin State Board of VTAE. Requirements for Certification 1965. Madison, 1966.

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